ISSA Standards Manual
Part II - Seaplanes and Amphibians
Edition 3

IATA

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ISSM Part II Third Edition

The following tables describe the changes contained in the Edition 3 of the ISSA Standards Manual Part II which was designed and applicable for seaplanes and amphibians Operators.

The first table, called ISSM Part II Edition 3 Revision Highlights, describes the more significant future changes in ISSM Part II.

Subsequent tables describe the changes in each of the sections in relation to the current ISSM Part II Edition 3. Additionally, the number of standards and recommended practices that have been added and eliminated or moved to other section is found in an Added/Eliminated/Moved summary table. All of the added/eliminated/moved provisions are subsequently identified at the beginning of the table for each respective section.

ISSM Part II Edition 3 Revision Highlights
Description of Significant Changes
- ORG 1.1.5 Recommended practice was upgraded to a standard.
- ORG 1.4.1 Recommended practice was upgraded to a standard.
- ORG 1.5.5 The word safety critical function replaced with operational functions, GM was revised accordingly.
- ORG 2.5.4 Recommended practice was upgraded to a standard.
- ORG 4.3.1 Recommended practice was upgraded to a standard.
- Table 1.1 (xi) Requirement for regulatory approval was added.
- FLT 3.9.1 New standard about passenger and crew baggage or cargo packages transportation in passenger seat.
- CGO 2.1.1 (iii) Sub-provision about re-qualification training was added. AA was added accordingly.
- ORG 1.2.2, 1.3.1, 1.4.1, 2.5.4, 3.5.2, 4.2.1, 4.3.1 "A" and "B" versions.

Summary—ISARPs Added/Eliminated/Moved (All Sections)	
Standards Eliminated	• None
Standards Added	**Five (5)** • ORG 1.1.5 Recommended practice was upgraded to a standard. • ORG 1.4.1 Recommended practice was upgraded to a standard. • ORG 2.5.4 Recommended practice was upgraded to a standard. • ORG 4.3.1 Recommended practice was upgraded to a standard. • FLT 3.9.1 Standard about passenger and crew baggage or cargo packages transportation in passenger seat.
Recommended Practices Eliminated	**Four (4)** • ORG 1.1.5 Recommended practice was upgraded to a standard. • ORG 1.4.1 Recommended practice was upgraded to a standard. • ORG 2.5.4 Recommended practice was upgraded to a standard. • ORG 4.3.1 Recommended practice was upgraded to a standard.
Recommended Practices Added	• None

Introduction	
Area Changed	Description of Change(s)
11	• The word temporary revision replaced by revision.

Section 1 (ORG)	
Area Changed	Description of Change(s)
ORG 1.1.5	• Recommended practice was upgraded to a standard.
ORG 1.2.2A	• Standard - the "note" about applicability of the provision is only for ISSA Registration Renewal assessments was added.
ORG 1.2.2B	• Recommendation - the "note" about applicability of the provision is only for ISSA initial assessments was added.
ORG 1.3.1A	• Standard - the "note" about applicability of the provision is only for ISSA Registration Renewal assessments was added.
ORG 1.3.1B	• Recommendation - the "note" about applicability of the provision is only for ISSA initial assessments was added.
ORG 1.4.1A	• Standard - the "note" about applicability of the provision is only for ISSA Registration Renewal assessments was added.
ORG 1.4.1B	• Recommendation - the "note" about applicability of the provision is only for ISSA initial assessments was added.
ORG 1.5.5	• The word safety critical function replaced with operational functions, GM was revised accordingly.
ORG 2.5.1	• Additional wording was added for better clarification.
ORG 2.5.4A	• Recommended practice was upgraded to a standard and the "note" about applicability of the provision is only for ISSA Registration Renewal assessments was added.
ORG 2.5.4B	• Recommendation - the "note" about applicability of the provision is only for ISSA initial assessments was added.
ORG 3.1.1	• GM was revised for better clarification.
ORG 3.5.2A	• Standard - the "note" about applicability of the provision is only for ISSA Registration Renewal assessments was added.
ORG 3.5.2B	• Recommendation - the "note" about applicability of the provision is only for ISSA initial assessments was added.
ORG 4.1.1	• ISARP was revised for better clarification. Monitoring process was added to the provision.
ORG 4.2.1A	• Standard - the "note" about applicability of the provision is only for ISSA Registration Renewal assessments was added.
ORG 4.2.1B	• Recommendation - the "note" about applicability of the provision is only for ISSA initial assessments was added.
ORG 4.3.1A	• Recommended practice was upgraded to a standard and the "note" about applicability of the provision is only for ISSA Registration Renewal assessments was added.
ORG 4.3.1B	• Recommendation - the "note" about applicability of the provision is only for ISSA initial assessments was added.
Table 1.1	• (xi) Requirement for regulatory approval was added.

Section 2 (FLT)	
Area Changed	Description of Change(s)
FLT 3.9.1	• New standard about passenger and crew baggage or cargo packages transportation in passenger seat was added.

Section 3 (DSP)	
Area Changed	Description of Change(s)
	N/A

Section 4 (MNT)	
Area Changed	Description of Change(s)
	N/A

Section 5 (CAB)	
Area Changed	Description of Change(s)
	N/A

Section 6 (GRH)	
Area Changed	Description of Change(s)
General Guidance	• Editorial Change
GRH 3.4.3	• GM - IGOM Reference was corrected, and additional reference was provided.

Section 7 (CGO)	
Area Changed	Description of Change(s)
CGO 2.1.1	• (iii) Sub-provision about re-qualification training was added. AA was added accordingly.

Section 8 (SEC)	
Area Changed	Description of Change(s)
	N/A

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Introduction

1 Purpose

The ISSA Standards Manual (ISSM) Part II is published in order to provide the standards, recommended practices (ISARPs), associated guidance material and other supporting information necessary for an operator of seaplanes and amphibians to successfully prepare for an assessment.

△ ISSA Standard Manual (ISSM) Part II Edition 3 has been approved by Head, IOSA.

The ISSM Part II may also be used as a guide for any operator of seaplane or amphibian desiring to structure its operational management and control systems in conformity with the latest industry operational practices.

The ISSM Part II is the sole source of assessment criteria to be utilized by auditors when conducting an assessment against the ISARPs.

2 Structure

The ISSM Part II is organized as follows:

Section 1 → Organization and Management System (ORG);

Section 2 → Flight Operations (FLT);

Section 3 → Operational Control and Flight Dispatch (DSP);

Section 4 → Aircraft Engineering and Maintenance (MNT);

Section 5 → Cabin Operations (CAB);

Section 6 → Ground Handling Operations (GRH);

Section 7 → Cargo Operations (CGO);

Section 8 → Security Management (SEC).

Each section in this Manual has been assigned an associated 3-letter identifier (in parentheses above). The reference number for every standard or recommended practice within a section will include the specific 3-letter identifier for that section.

3 Sources for ISSM Standards and Recommended Practices (ISARPs)

The safety and security requirements published in the Annexes to the Convention on International Civil Aviation (ICAO Annexes) are the primary source for specifications contained the ISARPs. Safety and security requirements in the ICAO Annexes used as the basis for ISARPs are those that are applicable either directly or indirectly to the air operator.

The ISARPs for seaplane operators are based on the body of international regulatory guidance pertaining to seaplane operations, including the ICAO Annexes. However, because the FAA and Transport Canada Civil Aviation (TCCA) oversee a broad spectrum of seaplane operations within their jurisdiction and have established legacies of working with the seaplane industry and accident investigators, they have therefore provided the primary regulatory basis for the ISARPs.

These regulators have established guidance material for seaplane operators in the form of Advisory Circulars (AC), Civil Aviation Safety Alerts (CASA), and aviation safety studies. These publications, along with accident investigations and recommendations from the Canadian Transportation Safety Board (TSB), have been used as supporting documentation for the standards.

Additionally, established seaplane operators with proven safety records have developed industry best practices that contribute significantly to safe seaplane operations, but which are not necessarily embodied in regulatory frameworks. Therefore, many of the seaplane ISARPs have been informed by those industry practices and recommendations.

4   Applicability of ISARPs for ISSM Part II – Seaplanes and Amphibians

Applicability Guidance

To provide guidance to the operators, an Applicability box is found at the beginning of each section of this manual. Within the box is a general description of the applicability of the ISARPs contained in the section. The applicability of individual standards or recommended practices is always determined by the auditor. As a means to assist with the interpretation of individual application, many ISARPs begin with a *conditional phrase* as described below.

Systemic Applicability

When making a determination as to the applicability of individual ISARPs, it is important to take into account operations (relevant to the individual standard or recommended practice) that are conducted, not only at the home station, but at all stations and other locations throughout the operator's network.

Aircraft Applicability

Note: The term aircraft as used throughout the ISSM Part I refers to fixed wing aircraft (aeroplane or airplane).

The ISARPs as published in this version of the ISSM are applicable only for the assessment of an operator that meets the eligibility criteria below:

- Seaplane operations;
- Commercial passenger and/or cargo operations;
- One- or two-pilot operations;
- IFR and/or VFR operations;
- Aircraft below and above 5,700 Kg (12,566 lb) MTOW.

Note: An Operator utilizing aircraft other than seaplanes and amphibians should refer to ISSM Part I.

ISARPs may not be applied or used for the assessment of operations that are conducted with:

- Helicopters;
- Operators with no aircraft on the AOC (only wet-lease operations).

During an assessment, ISARPs are applied only to those aircraft that are of the type authorized in the Air Operator Certificate (AOC) (or equivalent document) and utilized in commercial passenger and/or cargo operations. Certain ISARPs are also applicable to non-commercial operations, and such application is indicated in a note that is part of the standard or recommended practice.

Other owned or leased aircraft that are not of the type authorized in the AOC and/or not utilized in commercial air transport operations will not be evaluated during an assessment. However, the existence of such aircraft will be referenced with an explanation in the ISSA Assessment Report (ISAR).

5   Explanation of ISARPs

ISARPs contained in this manual have been developed solely for use under the ISSA program and contain the operational criteria upon which the assessments are based. ISARPs are not regulations.

ISARPs Identifiers

All ISSM Part II provisions (i.e. the ISARPs) are preceded by an identifier that consists of the three-letter section abbreviation and a string of three numbers separated by two decimal points (e.g. ORG 1.1.1). Stabilization of the ISARPs identifiers is an important goal, primarily for facilitating use of the ISARPs by operators, auditors and others, but also for the purpose of ensuring an accurate statistical basis. Therefore, when revising the ISSM, every effort is made to minimize any renumbering of the ISARPs. In certain instances new provisions must be inserted into an existing series of ISARPs. Normally this is done when it is important that the new provision has a logical locational relationship with another existing provision. When this occurs, an additional upper-case letter is attached to the identifier of the applicable provisions as the means of avoiding the renumbering of other ISARPs that follow in the series.

Standards

ISSA Standards are specified systems, policies, programs, processes, procedures, plans, sets of measures, facilities, components, types of equipment or any other aspect of operations under the scope of ISSA that have been determined to be an operational necessity, and with which an operator will be expected to be in conformity at the conclusion of an assessment. Standards always contain the word "shall" (e.g., "The Operator shall have a process…") in order to denote that conformance by an operator being assessed is a requirement for ISSA registration.

During an assessment, determination of nonconformity with specifications contained in an ISSA Standard results in a Finding, which in turn results in the generation of a Corrective Action Report (CAR).

To close a Finding, an operator will develop a Corrective Action Plan (CAP), and then implement corrective action in accordance with the CAP.

Recommended Practices

ISSA Recommended Practices are specified systems, policies, programs, processes, procedures, plans, sets of measures, facilities, components, types of equipment or any other aspects of operations under the assessment scope of ISSA that have been determined to be operationally desirable, but conformity is optional by an operator. Recommended Practices always contain the italicized word "should" (e.g., "The Operator should have a policy…") to denote conformance is optional.

During an assessment, a determination of nonconformity with specifications contained in an ISSA Recommended Practice results in an Observation, which in turn results in the generation of a CAR.

An operator is not obliged to close an observation with corrective action but, as a minimum, must provide the root cause analysis (RCA) portion of the CAP. However, if an operator chooses to close an Observation, it will require subsequent implementation of corrective action the same as is required to close a Finding.

Conditional Phrase

Certain provisions (i.e. standards or recommended practices, or sub-specifications within certain provisions), begin with a conditional phrase. The conditional phrase states the conditions (one or more) that serve to define the applicability of the provision or sub-specification to the individual operator being assessed. A conditional phrase begins with the words "If the Operator…"

When assessing an operator against a provision or sub-specification that begins with a conditional phrase, the Auditor will first determine if an operator meets the condition(s) stated in the conditional phrase. If the operator meets the stated condition(s), the provision or sub-specification is applicable to the operator and must be assessed for conformity. If the operator does not meet the condition(s), the provision or sub-specification is not applicable to that operator, and such non-applicability will be recorded as N/A.

Notes and Symbols

An italicized note (Note:) immediately following a provision contains information relevant to the specification(s) in the provision, and is to be considered as part of the provision.

An **[SMS]** symbol in bold text immediately following the last sentence of an ISSA provision indicates the provision specifies one or more of the elements of a safety management system (SMS). (SMS is addressed in subsection 8 below.)

A **(GM)** symbol in bold text following the last sentence of an ISSA provision indicates the existence of associated guidance material. (Guidance Material is addressed in subsection 6 below.)

Special Review Suspension

IATA, upon request from an appropriate industry source, may subject the technical specifications within an ISSA standard to a special review in accordance with the ISSA Standards Special Review Process.

When a special review is conducted, the ISSA standard or certain sub-specifications within the ISSA standard are put under suspension until the special review has been completed.

When a new edition of the ISSM Part II is published while a special review is in progress, the suspended ISSA standard or sub-specification(s) within the ISSA standard will be identified with either of the following, as appropriate:

- *(This standard is currently suspended in accordance with the ISSA Standards Special Review Process), or*
- *(This sub-specification is currently suspended in accordance with the ISSA Standards Special Review Process).*

6   Guidance Material

Guidance material is informational in nature and supplements or clarifies the meaning or intent of certain ISARPs. ISARPs that are self-explanatory do not have associated guidance material.

Guidance material is designed to ensure a common interpretation of specifications in ISARPs and provides additional detail that assists an operator to understand what is required in order to achieve conformity. Where applicable, guidance material also presents examples of acceptable alternative means of achieving conformity.

Guidance material associated with an individual standard or recommended practice is co-located with the relevant provision and is preceded by the bold sub-heading **Guidance**.

Additionally, some guidance material relates to an entire ISSM Part II section or to a specific grouping of provisions within a section. Such guidance stands alone in an appropriate location and is preceded by the bold heading **General Guidance**.

Assessment specifications are contained only in the ISARPs, and never in the guidance material.

7   Operational Assessment

During an assessment, an operator is assessed against the ISARPs contained in this manual. To determine conformity with any standard or recommended practice, an auditor will gather evidence to assess the degree to which specifications are documented and implemented by the operator. In making such an assessment, the following information is applicable.

Documented

Documented shall mean the specifications in the ISARPs are published and accurately represented by an operator in a controlled document. A controlled document is subject to processes that provide for positive control of content, revision, publication, distribution, availability and retention.

Documentation is necessary for an operator to ensure systems, programs, policies, processes, procedures and plans are implemented in a standardized manner, and to further ensure such standardized implementation is sustained on an on-going basis. Documentation provides the standards that govern the way personnel perform tasks within the management system and in operations. Such documented standards are necessary for an operator to:

- Provide continuity in the flow of information to personnel;
- Ensure personnel are properly trained;
- Conduct evaluations (e.g. audits, inspections, performance assessments).

Implemented

Implemented shall mean the specification(s) in the ISARPs are established, activated, integrated, incorporated, deployed, installed, maintained and/or made available, as part of the operational system, and is (are) monitored and evaluated, as necessary, for continued effectiveness.

The continuity of implementation is directly linked to documentation. To ensure standardization within the management system and in the conduct of operations, an operator must ensure specified systems, programs, policies, processes, procedures and plans are implemented as published in its controlled documents.

The requirement for specifications to be documented and implemented by an operator is inherent in ISARPs unless indicated otherwise.

Inactive Approved Operations

It is not unusual for an operator to elect not to conduct certain types of operations for which it has regulatory approval (e.g. transport of dangerous goods). In such cases, ISSA provisions with specifications that address such inactive operations would not be applicable to the operator during an assessment if it is stated clearly in a controlled document (e.g. Operations Manual) that the specified operations are not conducted by the operator.

Outsourced Functions

Where an operator has chosen to outsource operational functions specified in ISSA provisions to external service providers, conformity with those provisions will be based on evidence provided by the operator that demonstrates acceptable processes are in place (i.e. processes are documented and implemented) for monitoring such external service providers to ensure fulfillment of applicable operator and regulatory requirements affecting the safety and security of operations. Auditing is recommended as an effective method for an operator to monitor external service providers.

8   Safety Management Systems (SMS)

The components and elements of an SMS for air operators are published in the ICAO Framework for Safety Management Systems (SMS) as published in ICAO in Annex 19. Guidance supporting the Framework may be found in the ICAO Safety Management Manual (SMM), Doc 9859. Most SMS components and elements contained in the ICAO Framework are addressed in the ISARPs.

Specific SMS requirements for an operator will always be mandated by the State in accordance with its individual State Safety Plan (SSP). Not all states will mandate SMS immediately, and some states could take several years before making SMS mandatory for its operators. Additionally, some elements of SMS are quite complex, thus full implementation of an SMS by an operator will typically take several years. Therefore, given these factors, most SMS provisions are initially presented in the ISARPs as recommended practices (i.e. "should"). SMS standards and recommended practices are identified by a bold [SMS] symbol immediately following the last sentence of the provision.

An operator that is assessed and found to be in conformity with all ISARPs (applicable to that operator) identified by the **[SMS]** symbol, is considered to have a baseline SMS in place.

Such baseline SMS might not meet the SMS requirements of all states because certain states, in accordance with their individual SSP, could add requirements above those contained in the ICAO framework. Additionally, some states might mandate operators to implement SMS using a multiphase approach. In either case, having the basic SMS elements implemented in accordance with the ISSA standards should facilitate compliance with individual state SMS requirements.

SMS Upgrades

In accordance with the IATA SMS Strategy, all ISSA SMS recommended practices are being incrementally upgraded to standards such that, with the ISSM revision that will be effective on 1 November 2024, all ISSA SMS provisions will have been upgraded to standards (i.e. "shall").

9   ISSA Documentation System

The ISSM is used in association with the following related manuals:
- ISSA Program Manual (ISPM);
- IOSA Program Manual (IPM);
- IATA Reference Manual for Audit Programs (IRM);
- IOSA Audit Handbook (IAH).

The ISPM, IPM, IRM and IAH comprise the ISSA documentation system.

10   English Language

English is the official language of the ISSA Program; documents comprising the ISSA Documentation System are written in International English* in accordance with IATA policy.

The ISSA Program Manual requires auditors to ensure the English language version of this ISSM and/or ISSA Checklists is always used as the basis for a final determination of conformity or nonconformity with ISARPs during the conduct of an assessment. Versions of the ISSM or ISSA Checklists that have been translated into another language are subject to misinterpretation; therefore, any translated ISSA document is considered an unofficial reference.

* Refer to the IRM for the definition of *International English*. The official reference for International English in accordance with IATA policy is the online Merriam-Webster Dictionary (http://www.merriam-webster.com).

11   Manual Revisions

△ The ISSM Part II is normally revised annually. In accordance with IATA policy, a revision to the ISSM Part II will always result in a new edition of the Manual.

The time period between the issuance of a new edition of the ISSM Part II and the effective date of such new edition is typically four full months.

△ Should critical issues arise that affect the content of the ISSM Part II, a revision to the current edition of the ISSM Part II will be issued.

Usable Edition

For an ISSA assessment, the Operator normally determines the edition of the ISSM Part II that will be used for an assessment.

The Operator has the option to select either:

- The edition that is effective on the day before the on-site phase of the assessment is scheduled to begin, or
- An edition that has been published prior to the day the onsite phase of the assessment is scheduled to begin, but has not yet become effective.

12   Modification Status

All changes in this document are listed in the revision highlights table. For easier orientation, the following symbols identify any changes made within each section:

☐	Addition of a new item.
△	Change to an item.
⊗	Deletion of an item.

13   Conflicting Information

Manuals within the ISSA documentation system are not revised concurrently, thus creating the possibility of conflicting information in different manuals. If there are inconsistencies between the ISSA documentation, namely the ISSM, ISPM and IAH, IATA should be contacted for clarification and correction.

IATA Dangerous Goods Regulations (DGR)

The DGR is a manual that is published annually and is effective on 1 January of each calendar year.

The ISSM may be published in different month of the same year, which creates the potential for conflicting DGR-ISSM requirements. In the case of a DGR-ISSM conflict, the requirement contained in the current effective version of the DGR shall be considered valid.

14   Definitions and Abbreviations

The IATA Reference Manual for Audit Programs (IRM) contains the Glossary of Terms and the List of Abbreviations that are associated with the audit programs.

Additionally, the following definitions which appear in the body of this manual apply specifically to seaplane operations and are based on ICAO guidance and requirements for the design and operation of water aerodromes:

Fixed platform – A platform extending from the shore, on water and supported by pillars to hold it in position, intended to align alongside seaplanes for the purposes of embarkation and disembarkation of passengers, loading and unloading of cargo, or refueling or parking of seaplanes.

Floating platform – A platform placed on open water authorized for the purpose of embarkation and disembarkation of passengers and the loading and unloading of cargo by seaplane.

Gangway – A movable walkway where people board and disembark such as platforms, and piers.

Mooring – A fixed permanent installation on the water surface used to secure seaplanes. The seaplane may be moored to a floating buoy, a pier, platforms, etc.

Mooring buoy – A buoy connected by chain or cable to a permanent unmovable anchor sunk deeply into the bottom of a body of water.

Protected area – An area which is protected from large waves. The structure providing protection can be natural or constructed.

Seaplane – An aeroplane on floats (amphibious or non-amphibious) or a flying boat (water-only or amphibious).

Taxi channel – A defined path on a water aerodrome, intended for the use of taxing seaplanes.

Water Aerodrome – A defined area, primarily on water, intended to be used either wholly or in part for the arrival, departure and movement of seaplanes, and any building and equipment on ground or water. This term includes bother certified water aerodromes and any suitable body of water intended for use as a take-off and landing area for seaplanes.

15   ISSA Documents and Forms

ISSA documents and forms that are referenced in this manual are available for download on the ISSA website (http://www.iata.org/issa).

16   Authority

The ISSA Program operates under the authority of the IATA Operations Committee (OPC) with reference to the IATA Board of Governors (BoG).

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Section 1 — Organization and Management System (ORG)

Applicability

Section 1 addresses the organization and management system of an operator for the purpose of ensuring the safety and security of aircraft operations.

Individual ORG provisions or sub-specifications within an ORG provision that:

- Begin with a conditional phrase ("If the Operator...") are applicable if the operator meets the condition(s) stated in the phrase.
- Do not begin with a conditional phrase are applicable to all operators unless determined otherwise by the Auditor.

General Guidance

Definitions of technical terms used in this ISSM Part II Section 1, as well as the meaning of abbreviations and acronyms, are found in the IATA Reference Manual for Audit Programs (IRM).

1 Management and Control

1.1 Organization and Accountability

ORG 1.1.1

The Operator shall have a management system that has continuity throughout the organization and ensures control of operations and management of safety and security outcomes. **(GM)**

Auditor Actions

☐ **Identified/Assessed** organizational management system structure.

☐ **Assessed** status of conformity with all other ORG management system ISSARPs.

☐ **Crosschecked** to determine status of conformity with management system standards in all operational areas.

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Operations, Operator, Safety (Operational), Security (Aviation) and State.

A management system is documented in controlled company media at both the corporate and operational levels. Manuals or controlled electronic media are acceptable means of documenting the management system.

Documentation provides a comprehensive description of the scope, structure and functionality of the management system and depicts lines of accountability throughout the organization, as well as authorities, duties, responsibilities and the interrelation of functions and activities within the system for ensuring safe and secure operations.

Acceptable means of documentation include, but are not limited to, organograms (organization charts), job descriptions and other descriptive written material that define and clearly delineate the management system.

Documentation also reflects a functional continuity within the management system that ensures the entire organization works as a system and not as a group of independent or fragmented units (i.e., silo effect).

An effective management system is fully implemented and functional with a clear consistency and unity of purpose between corporate management and management in the operational areas.

The management system ensures compliance with all applicable standards and regulatory requirements. In addition to internal standards and regulations of the State, an operator may also be required to comply with authorities that have jurisdiction over operations that are conducted over the high seas or within a foreign country.

ORG 1.1.2

The Operator shall have a valid Air Operator Certificate (AOC) or equivalent document issued by the State of the Operator (hereinafter, the State) that authorizes the Operator to conduct commercial air transport operations in accordance with specified conditions and limitations. The AOC and/or associated documents shall include:

(i) Operator identification (name and location);

(ii) Date of issue and period of validity;

(iii) Description of types of operations authorized;

(iv) Type(s) of aircraft authorized for use;

(v) Authorized areas of operation or routes;

(vi) Exemptions, deviations and waivers (listed by name);

(vii) Special authorizations if applicable.

Auditor Actions

☐ **Identified** the documents that authorize the Operator to conduct commercial air transport operations in accordance with conditions and limitations specified by the State.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** AOC (focus: information is current and relevant to the Operator).

☐ **Crosschecked** AOC against OM (focus: authorizations/limitations consistent with operations conducted by Operator).

☐ **Other Actions** (Specify)

Guidance

The specifications of this provision require the conditions and limitations of any State-approved or State-accepted air transport operations, conducted by the operator, to be described in the AOC, AOC equivalents and/or associated documents.

The AOC is produced (by the State) in a manner consistent with local conditions for State approval or acceptance. This should not preclude the operator from describing authorized operations, including conditions and limitations for such operations, in associated documents and in a manner consistent with the specifications of this provision. Such documents typically include the OM or any operational document that describes the conditions and limitations of authorized operations.

The exemptions, deviations, waivers and special authorizations in specifications vi) and vii) may be described in State-approved or State-accepted documents other than the AOC. Operators subject to laws or regulations of the State that prevent the issuance of an AOC consistent with the specifications of this provision and/or prohibit the description of authorized operations in a manner consistent with the specifications of this provision may demonstrate an equivalent method of ensuring the specifications of this provision are satisfied.

The period of validity is designated on the AOC or determined by reference to the dates of issuance and expiration.

ORG 1.1.3

The Operator shall identify one senior management official as the Accountable Executive (AE) who is accountable for performance of the management system as specified in ORG 1.1.1 and:

(i) Irrespective of other functions, has ultimate responsibility and accountability on behalf of the Operator for the implementation and maintenance of the safety management system (SMS) throughout the organization;

(ii) Has the authority to ensure the allocation of resources necessary to manage safety and security risks to aircraft operations;

(iii) Has overall responsibility and is accountable for ensuring operations are conducted in accordance with conditions and restrictions of the Air Operator Certificate (AOC), and in compliance with applicable regulations and standards of the Operator. **[SMS] (GM)**

Auditor Actions

☐ **Identified** senior management official designated as the accountable executive for the conduct of operations.

☐ **Examined** management system structure and organizational lines of accountability.

☐ **Examined** job description of designated accountable executive to determine if assigned responsibilities are in accordance with the standard.

☐ **Interviewed** accountable executive and/or designated management representative(s).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Accountability, Accountable Executive (AE), Authority, Aircraft Operations, Responsibility, Safety Risk Management and Senior Management.

The requirement for an AE is an element of the Safety Policy and Objectives component of the SMS framework.

The designation of an AE means the accountability for safety and security performance is placed at a level in the organization having the authority to take action to ensure the management system is effective. Therefore, the AE is typically the chief executive officer (CEO), although, depending on the type and structure of the organization, it could be a different senior official (e.g. chairperson/member of the board of directors, company owner).

The AE has the authority, which includes financial control, to make policy decisions, provide adequate resources, resolve operational quality, safety and security issues and, in general, ensure necessary system components are in place and functioning properly.

In an SMS, the AE would typically have:

- Ultimate responsibility and accountability for the safety of the entire operation together with the implementation and maintenance of the SMS;

- Responsibility for ensuring the SMS is properly implemented in all areas of the organization and performing in accordance with specified requirements.

The AE also is responsible for ensuring the organization is in compliance with requirements of applicable authorities (i.e. regulations), as well as its own policies and procedures, which may exceed existing regulations or address areas that are not regulated (e.g. ground handling operations). An operator's policies and procedures are typically published in its Operations Manual (OM).

To ensure that the operator continues to meet applicable requirements, the AE might designate a manager with the responsibility for monitoring compliance. The role of such manager would be to ensure that the activities of the operator are monitored for compliance with the applicable regulatory requirements, as well as any additional requirements as established by the operator, and that these activities are being carried out properly under the supervision of the relevant head of functional area.

Expanded guidance may be found in the ICAO SMM, Document 9859.

ORG 1.1.4

If required by the State of the Operator (hereinafter, the State), the Operator shall have post holders within the management system that are acceptable to the Authority and have the responsibility for ensuring, in their respective defined operational areas:

(i) The management of safety risks and security threats to aircraft operations;

(ii) Operations are conducted in accordance with conditions and restrictions of the Air Operator Certificate (AOC), and in compliance with applicable regulations and standards of the Operator. **(GM)**

Auditor Actions

☐ **Identified** post holders accountable for the conduct of operations.

☐ **Examined** management system structure and organizational lines of accountability.

☐ **Examined** job descriptions of all post holders throughout the organization
(focus: accountability/responsibilities are as specified in the standard).

☐ **Interviewed** AE and/or designated management representative(s).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Post Holder.

Managers in such positions might be referred to as post holders, directors or another title as specified by each State.

△ ### ORG 1.1.5

The Operator shall designate a manager who is responsible for the implementation, maintenance and day-to-day administration of the SMS throughout the organization on behalf of the AE and senior management. **[SMS] (GM)**

Auditor Actions

☐ **Identified** safety management system (SMS) structure.

☐ **Interviewed** SMS accountable executive and/or designated management representative(s).

☐ **Assessed** conformity with all ORG SMS ISARPs.

☐ **Other Actions** (Specify)

Guidance

The requirement is for a manager that focuses on the administration and oversight of the SMS on behalf of the AE is an element of the Safety Policy and Objectives component of the SMS framework.

The individual assigned responsibility for organizational implementation of an SMS is ideally a management official that reports to the AE. Also, depending on the size, structure and scope of an operator's organization, as well as the complexity of its operations such individual may be assigned functions in addition to those associated with the SMS manager position provided those functions do not result in a conflict of interest.

The title assigned to the designated manager will vary for each organization. Regardless of title, the manager is the designated organizational focal point for the day-to-day development, administration and maintenance of the SMS (i.e. functions as the SMS *champion*). It is important that such manager has the necessary degree of authority when coordinating and addressing safety matters throughout the organization.

Whereas the designated manager has responsibility for day-to-day oversight of the SMS, overall accountability for organizational safety rests with the accountable executive. Likewise, nominated officials (refer to ORG 1.1.4) or operational managers always retain the responsibility (and thus are accountable) for ensuring safety in their respective areas of operations.

Note: Depending on the size of an operator's organization and the complexity of its operations, the responsibilities for implementation and maintenance of the SMS (i.e. fulfillment of the SMS manager role) may be assigned to one or more persons.

Expanded guidance may be found in the ICAO SMM, Document 9859.

ORG 1.1.6–1.1.9   (Intentionally open)

ORG 1.1.10

The Operator *should* have an SMS that is implemented and integrated throughout the organization to ensure management of the safety risks associated with aircraft operations. **[SMS] (GM)**

*Note: Conformity with this ORG recommended practice is possible only when the Operator is in conformity with all standards and recommended practices that are identified by the **[SMS]** symbol.*

Note: Effective 1 March 2025, this recommended practice will be upgraded to a standard.

Auditor Actions

☐ **Identified/Assessed** safety management system (SMS) structure.

☐ **Interviewed** SMS accountable executive and/or designated management representative(s).

☐ **Assessed** conformity with all ORG SMS ISSARPs.

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Safety Management System (SMS) and State Safety Program (SSP).

The specifications for an operator's SMS in this recommended practice are derived from the SMS Framework, which is published in Annex 19 to the Convention on International Civil Aviation (ICAO Annex 19). The SMS Framework specifies the four major components and 12 elements that make up the basic structure of an SMS.

Where applicable, an SMS is designed and implemented in accordance with the State Safety Program (SSP). The manner in which the elements of SMS are implemented typically reflects the size and complexity of the operator's organization.

In general, an SMS is designed and implemented to:

- Identify safety hazards in operations;
- Ensure remedial action is implemented to control safety risks;
- Provide for ongoing monitoring and assessment of safety performance;
- Make continual improvement to the level of safety in operations.

The specific requirements for each operator's SMS will normally be found in the regulations associated with the SSP. In addition, states would typically publish guidance designed to assist operators in the implementation of SMS.

A description of an operator's SMS is contained in documentation as specified in ORG 2.5.4.

Expanded guidance may be found in the ICAO Safety Management Manual (ICAO SMM), Document 9859.

1.2   Management Commitment

ORG 1.2.1

The Operator shall have a corporate safety policy that reflects the organizational commitment regarding safety, including the promotion of a positive safety culture. Such policy shall be communicated throughout the organization and include the following:

(i)   A statement about the provision of the necessary resources for the implementation of the safety policy;

(ii) A commitment to the continual improvement of the organization and the management system;

(iii) A commitment to a periodic review of the policy to ensure its continued relevance to the organization. **[SMS] (GM)**

Auditor Actions

☐   **Identified/Assessed** corporate safety policy.

☐   **Interviewed** SMS manager and/or designated management representative.

☐   **Examined** specific examples that verify safety policy is communicated throughout the organization.

☐   **Other Actions** (Specify)

Guidance

The requirement for an operator to have a defined safety policy is an element of the Safety Policy and Objectives component of the SMS framework.

The safety policy typically also reflects the commitment of senior management to:

- Compliance with applicable regulations and standards of the Operator;
- Ensuring the management of safety risks to aircraft operations;
- The promotion of safety awareness;
- Continual improvement of operational performance.

The safety policy is typically reviewed periodically to ensure continued relevance to the organization.

Such policy might be documented in the operations manual or other controlled document, and, to enhance effectiveness, is communicated and made visible throughout the organization through dissemination of communiqués, posters, banners and other forms of information in a form and language which can be easily understood. To ensure continuing relevance, the corporate policy is normally reviewed for possible update a minimum of every two years.

Consistent with the structure and complexity of the operator's organization, the corporate safety policy may be issued as a stand-alone policy or combined with the policy specified in ORG 1.2.2.

Expanded guidance may be found in the ICAO SMM, Document 9859.

△

△   **ORG 1.2.2A**

The Operator shall have a corporate safety reporting policy that encourages personnel to report hazards to aircraft operations and, in addition, defines the Operator's policy regarding disciplinary action, to include:

    (i)   Types of operational behaviors that are unacceptable;

    (ii)   Conditions under which disciplinary action would not apply. **[SMS] (GM)**

☐   *Note: This provision is only applicable for ISSA registration renewal assessments.*

Auditor Actions

☐   **Identified/Assessed** corporate safety reporting policy (focus: personnel urged to report operational hazards; definition of disciplinary policy/potential disciplinary actions).

☐   **Interviewed** AE and/or designated management representative(s).

☐   **Assessed defined** implementation of safety reporting in all operational areas.

☐   **Other Actions** (Specify)

Guidance

The requirement for an operator to have a safety reporting policy is an element of the Safety Policy and Objectives component of the SMS framework.

Safety reporting is a key aspect of SMS hazard identification and risk management.

Such a policy is typically documented in operations manuals or other controlled documents.

Consistent with the structure and complexity of the operator's organization, the safety reporting policy may be issued as a stand-alone policy or combined with the safety policy specified in ORG 1.2.1.

A safety reporting policy encourages and perhaps even provides incentive for individuals to report hazards and operational deficiencies to management. It also assures personnel that their candid input is highly desired and vital to safe and secure operations.

The safety reporting policy is typically reviewed periodically to ensure continuing relevance to the organization.

Refer to ORG 3.1.2, which specifies the operational safety reporting system.

☐   **ORG 1.2.2B**

The Operator *should* have a corporate safety reporting policy that encourages personnel to report hazards to aircraft operations and, in addition, defines the Operator's policy regarding disciplinary action, to include:

    (i)   Types of operational behaviors that are unacceptable;

    (ii)   Conditions under which disciplinary action would not apply. **[SMS] (GM)**

☐   *Note: This provision is only applicable for initial ISSA assessments.*

Auditor Actions

☐   **Identified/Assessed** corporate safety reporting policy (focus: personnel urged to report operational hazards; definition of disciplinary policy/potential disciplinary actions).

☐   **Interviewed** AE and/or designated management representative(s).

☐   **Assessed defined** implementation of safety reporting in all operational areas.

☐   **Other Actions** (Specify)

Guidance

Refer to Guidance Material of ORG 1.2.2A.

1.3   Roles and Responsibilities

△   **ORG 1.3.1A**

△   The Operator shall ensure the management system defines the safety accountabilities, authorities and responsibilities of management and non-management personnel throughout the organization, and specifies:

(i)   The levels of management with the authority to make decisions regarding risk tolerability with respect to the safety and/or security of aircraft operations;

(ii)   Responsibilities for ensuring operations are conducted in accordance with applicable regulations and standards of the Operator;

(iii)   Lines of safety accountability throughout the organization, including direct accountability for safety and/or security on the part of senior management. **[SMS] (GM)**

☐   *Note: This provision is only applicable for ISSA registration renewal assessments.*

Auditor Actions
☐   **Identified/Assessed** definition of authorities and responsibilities throughout the organization.
☐   **Interviewed** AE and/or designated management representative(s).
☐   **Assessed** to verify defined accountability/authorities/responsibilities for management and non-management personnel in all operational areas.
☐   **Other Actions** (Specify)

Guidance
The definition of authorities and responsibilities of management and non-management personnel is an element of the Safety Policy and Objectives component of the SMS framework.

In the context of the management system, the following typically apply:

- Accountability is the obligation to accept ultimate responsibility and be answerable for decisions and policies, and for the performance of applicable functions, duties, tasks or actions. Accountability may not be delegated.
- Authority is the delegated power or right to command or direct activities, and to make decisions.
- Responsibility is the obligation to execute or perform assigned functions, duties, tasks and/or actions. Responsibility may be accompanied by an appropriate level of delegated authority.

In the context of an SMS, the assignment of responsibility to individual personnel means such personnel are ultimately accountable for safety performance, whether at the overall SMS level (accountable executive) or at specific product and/or process levels (other applicable members of management). An effective management system ensures that responsibilities, and thus accountability, for safety and security are allocated to relevant management and non-management personnel that perform safety- or security-related functions, or that have a defined role in the SMS.

Responsibilities and accountability are typically defined in the functional job description for such personnel and are designed to flow from corporate senior management into all operational areas of the organization.

Responsibilities and accountability are normally described and communicated in a manner that ensures a clear understanding throughout the organization. Organization charts, or organograms, are typically used to depict the functional reporting system of an organization, and thus are an acceptable means for defining the flow (or "lines" as depicted on an organogram) of responsibilities and accountability within the management system.

Management positions critical to operational safety or security may require enhanced job descriptions or terms of reference that reflect specialized requirements inherent in certain key positions. Such specialized requirements would include any delegation of authority exercised by personnel on behalf of an authority (e.g., designated or authorized flight examiner).

Compliance with regulatory requirements, as well as internal policies and procedures, is an essential element of a safe and secure operational environment. The responsibility for ensuring compliance with both regulatory and internal requirements is specified and assigned within the management system. Job descriptions, terms of reference and operating manuals are examples of appropriate locations for documenting management system responsibilities.

Expanded guidance may be found in the ICAO SMM, Document 9859.

☐ **ORG 1.3.1B**

☐ The Operator *should* ensure the management system defines the safety accountabilities, authorities and responsibilities of management and non-management personnel throughout the organization, and specifies:

  (i) The levels of management with the authority to make decisions regarding risk tolerability with respect to the safety and/or security of aircraft operations;

  (ii) Responsibilities for ensuring operations are conducted in accordance with applicable regulations and standards of the Operator;

  (iii) Lines of safety accountability throughout the organization, including direct accountability for safety and/or security on the part of senior management. **[SMS] (GM)**

☐ *Note: This provision is only applicable for initial ISSA assessments.*

Auditor Actions
  ☐ **Identified/Assessed** definition of authorities and responsibilities throughout the organization.
  ☐ **Interviewed** AE and/or designated management representative(s).
  ☐ **Assessed** to verify defined accountability/authorities/responsibilities for management and non-management personnel in all operational areas.
  ☐ **Other Actions** (Specify)

Guidance

Refer to Guidance Material of ORG 1.3.1A.

1.4   Safety Performance

△ **ORG 1.4.1A**

The Operator shall have a process to define safety objectives. Such safety objectives should:

  (i) Reflect the Operator's commitment to maintain or continuously improve the overall effectiveness of the SMS;

  (ii) Be communicated throughout the organization;

  (iii) Be periodically reviewed to ensure they remain relevant and appropriate to the Operator. **[SMS] (GM)**

☐ *Note: This provision is only applicable for ISSA registration renewal assessments.*

Auditor Actions
  ☐ **Identified/Assessed** organizational program for setting safety objectives.
  ☐ **Interviewed** SMS manager and/or designated management representative(s).
  ☐ **Examined** selected safety objectives currently valid.
  ☐ **Examined** selected records/documents that identify tracking of safety objectives.
  ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Safety Assurance and Safety Objective.

Safety objectives provide direction to the operator's safety management activities and would therefore be consistent with the safety policy that sets out the organization's high-level safety commitment.

A safety objective is a high-level statement that typically expresses a desired safety outcome that is to be achieved over a defined period of time (e.g. one year).

Expanded guidance may be found in the ICAO SMM, Document 9859.

ORG 1.4.1B

The Operator *should* have a process to define safety objectives. Such safety objectives should:

    (i)   Reflect the Operator's commitment to maintain or continuously improve the overall effectiveness of the SMS;

    (ii)   Be communicated throughout the organization;

    (iii) Be periodically reviewed to ensure they remain relevant and appropriate to the Operator. **[SMS] (GM)**

Note: This provision is only applicable for initial ISSA assessments.

Auditor Actions

☐ **Identified/Assessed** organizational program for setting safety objectives.

☐ **Interviewed** SMS manager and/or designated management representative(s).

☐ **Examined** selected safety objectives currently valid.

☐ **Examined** selected records/documents that identify tracking of safety objectives.

☐ **Other Actions** (Specify)

Guidance

Refer to Guidance Material of ORG 1.4.1A.

ORG 1.4.2

The Operator *should* have processes for setting safety performance indicators (SPIs) and, as applicable, safety performance targets (SPTs) as means to monitor its safety performance, the achievement of its safety objectives and to validate the effectiveness of safety risk controls. **[SMS] (GM)**

Note: Effective 1 March 2025, this recommended practice will be upgraded to a standard.

Auditor Actions

☐ **Identified/Assessed** organizational program for setting SPIs and SPTs (focus: program defines/requires development/application of SPIs; measures used to track/monitor operational safety performance/validate safety risk controls).

☐ **Interviewed** SMS manager and/or designated management representative(s).

☐ **Examined** selected safety objectives currently valid.

☐ **Examined** selected records/documents that identify tracking of SPIs and SPTs (focus: tracking used to assess/monitor operational safety performance, assess/validate risk control effectiveness).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Safety Performance Indicator (SPI) and Safety Performance Target (SPT).

Setting SPIs in support of the operator's safety objectives is an element of the Safety Assurance component of the SMS framework.

SPIs and SPTs are used by an operator to track and compare its operational performance against the achievement of its safety objectives and to focus attention on the performance of the organization in managing operational risks and maintaining compliance with relevant regulatory requirements.

SPTs define short-term and medium-term safety performance management desired achievements. They act as 'milestones' that provide confidence that the organization is on track to achieving its safety objectives and provide a measurable way of verifying the effectiveness of safety performance management activities. The setting of SPTs is normally accomplished after considering what is realistically achievable and, where historical trend data are available, the recent performance of the particular SPI.

In addressing operational performance, meaningful indicators might focus on lower level (i.e. lower consequence) occurrences or conditions that are considered by the operator to be precursors to more serious events. SPIs may be specific to a certain area of operations or may be broad and apply to the entire system.

In addressing compliance, meaningful indicators, as a minimum, would focus on compliance with significant regulatory requirements (as determined by the operator) in all operational areas.

SPIs may be set in almost any operations or maintenance area and are usually expressed as a reduction in the rate or number of specifically identified occurrences or conditions.

Some possible examples of operational occurrences or conditions that could be monitored using SPIs include:

- Flight operations (e.g. takeoff and landing tail strikes, unsatisfactory line or training evaluations, unstabilized approaches, runway incursions/excursions);
- Operational control (e.g., flight diversions due to fuel);
- Engineering and maintenance (in-flight engine shutdowns, aircraft component/equipment failures, diversions due to maintenance errors, damage caused by maintenance);
- Cabin operations (inadvertent slide deployments);
- Ground handling (aircraft damages due to vehicles or equipment);
- Cargo operations (dangerous goods spills);
- Operational security (unauthorized interference or access events).

Expanded guidance may be found in the ICAO SMM, Document 9859.

1.5   Resource Management

ORG 1.5.1–1.5.4   (Intentionally open)

⊿   **ORG 1.5.5**

The Operator shall have a policy that addresses the use of psychoactive substances by personnel that perform operational functions and, as a minimum:

    (i)   Prohibits the exercise of duties while under the influence of psychoactive substances;

    (ii)   Prohibits the problematic use of psychoactive substances;

⊿   (iii)   Requires that all personnel who are identified as engaging in any kind of problematic use of psychoactive substances are removed from operational functions;

⊿   (iv)   Conforms to the requirements of the Authority, if applicable. **(GM)**

Auditor Actions

☐   **Identified/Assessed** policy that addresses use of psychoactive substances by operational personnel.

☐   **Interviewed** responsible manager(s).

☐   **Interviewed** operational personnel (focus: familiarity with psychoactive substance policy).

☐   **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Biochemical Testing, Psychoactive Substance and Problematic Use of Substances.

⊿   Personnel that perform operational safety and security functions as specified in this provision refers to persons in all operational disciplines who perform a function that, if performed improperly, could endanger the safety of aircraft operations. This includes operational personnel in all areas (flight crew, cabin crew, flight dispatch personnel (FOO/FOA), maintenance, ground handling, cargo, security).

Operators subject to laws or regulations of the State that preclude the publication of a psychoactive substance prohibition policy as specified in this provision may demonstrate an equivalent method of ensuring that personnel engaging in any kind of problematic use of psychoactive substance abuse do not exercise their duties and are removed from safety-critical functions.

Re-instatement to safety-critical duties could be possible after cessation of the problematic use and upon determination that continued performance of such duties is unlikely to jeopardize safety.

Examples of other subjects that might be addressed in a comprehensive and proactive policy include:

- Education regarding the use of psychoactive substances;
- Identification, treatment and rehabilitation;
- Employment consequences of problematic use of psychoactive substances;
- Biochemical testing;
- Requirements of ICAO and the Authority.

Additional guidance may be found in the ICAO Manual on Prevention of Problematic use of Substances in the Aviation Workplace (Doc 9654-AN/945).

1.6   Outsourcing Management

ORG 1.6.1   (Intentionally open)

ORG 1.6.2

The Operator shall have processes to ensure a contract or agreement is executed with external service providers that conduct outsourced operations, maintenance or security functions for the Operator. Such contract or agreement shall identify measurable specifications that can be monitored by the Operator to ensure requirements that affect the safety and/or security of operations are being fulfilled by the service provider. **(GM)**

Auditor Actions

☐ **Identified/Assessed** processes for contract/agreement production/execution with external service providers that conduct outsourced operations, maintenance and/or security functions.

☐ **Interviewed** responsible manager(s).

☐ **Examined** selected contracts/agreements to verify measurable specifications.

☐ **Assessed** implementation of external service provider contract/agreement processes in applicable operational areas.

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Outsourcing and Service Level Agreement.

An operator would always retain full responsibility for ensuring an outsourced function is performed properly by an external provider, even if such provider is the parent organization or an affiliate of the operator.

A contract or agreement is necessary to ensure details of the outsourced functions to be performed by the external service provider are formally documented. The contract or agreement not only sets forth the services the provider is expected to perform, but also describes the application of specific performance indicators or targets (i.e. measurable specifications) that will be monitored (by the operator) in the provider's performance of those services.

Examples of specific documented requirements could include the following:

- Processes or procedures from the operator's own documentation system (e.g. operational manuals, working instructions) that can be included in the contract by reference.

- Infrastructure, resource or certification requirements (e.g. number of personnel, certification standards for equipment, support equipment standards).

- SPIs that specify a maximum number of occurrences or deviations, which could be based on the operator's own SPIs in accordance with ORG 1.4.2.

The structure of contracts or agreements will vary with individual operators and, depending on such structure, defined measurable specifications may or may not be contained in any of the contractual documents. When the measurable specifications are not contained in the contract, they may be defined (in technical terms) in a controlled document that is part of the operator's documentation system, and then conveyed to the provider (perhaps periodically) in a manner that ensures understanding.

Note: For the purpose of this provision, the contract or agreement as specified above may comprise multiple parts, including the basic document that sets forth legal and commercial terms, and, as applicable, other associated documents that state terms or conditions of service (e.g. appendices, addenda, service level agreement).

1.7   Emergency Response

ORG 1.7.1

The Operator shall have a corporate emergency response plan (ERP) for the central management and coordination of all activities should it be necessary to respond to a major aircraft accident or other type of adverse event that results in fatalities, serious injuries, considerable damage and/or a significant disruption of operations. **[SMS] (GM)**

Auditor Actions

☐   **Identified/Assessed** corporate emergency response plan (ERP).

☐   **Interviewed** designated ERP manager.

☐   **Crosschecked** to verify implementation of ERP in all operational areas.

☐   **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Emergency Response Plan (ERP).

Emergency response planning is an element of the Safety Policy and Objectives component of the SMS framework.

An emergency (or crisis) response plan is based upon an assessment of risk appropriate to the size and type of operations, and includes consideration of a major aircraft accident and other potential aircraft and/or non-aircraft events that would require a full corporate emergency response.

In some states, emergency or crisis response is assumed by a governmental authority rather than by the operator. In such case, an emergency response plan focuses on and addresses interaction with and/or participation in the governmental response to an emergency or crisis.

As a best practice, an operator might consider defining in its ERP an appropriately coordinated response to a public health emergency.

An effective ERP includes industry best practices and ensure community expectations are addressed. Additionally, an ERP:

- Specifies general conditions for implementation;
- Provides a framework for an orderly implementation;
- Ensures proper coordination with external entities at all potential locations;
- Addresses all potential aspects of an event, including casualties;
- Ensures regulatory requirements associated with specific events are satisfied;
- Provides a scenario for the transition back to normal operations;
- Ensures regular practice exercises as a means to achieve continual improvement.

IATA provides a guide for use by operators in addressing a public health emergency. Such document, titled Emergency Response Plan and Action Checklist, may be found at http://www.iata.org/whatwedo/safety/health/Pages/diseases.aspx.

ORG 1.7.2–1.7.3   (Intentionally open)

ORG 1.7.4

The Operator *should* ensure the ERP as specified in ORG 1.7.1 includes provisions for the appropriate coordination with the emergency response plans of other applicable organizations relevant to the particular event or crisis. **[SMS] (GM)**

Note: Effective 1 March 2024, this recommended practice will be upgraded to a standard.

Auditor Actions

☐   **Identified/Assessed** ERP process for normal-emergency and emergency-normal transitions.

☐   **Identified/Assessed** ERP process for ensuring coordination with relevant external organizations.

☐ **Interviewed** designated corporate ERP manager.

☐ **Other Actions** (Specify)

Guidance

ERP transition and reporting is an element of the Safety Policy and Objectives component of the SMS framework.

An ERP typically defines:

- Coordination procedures for action by key personnel;
- External entities that will interact with the organization during emergency situations;
- ERPs of external entities that will require coordination;
- Method(s) of establishing coordination with external ERPs.

Expanded guidance may be found in the ICAO SMM, Document 9859.

2   Assurance, Monitoring and Documentation Control

2.1   Quality Assurance

ORG 2.1.1

The Operator shall have a quality assurance program that provides for the auditing and evaluation of the management system, and of operations and maintenance functions, to ensure the organization is:

(i)   Complying with applicable regulations and standards of the Operator;

(ii)   Satisfying stated operational needs;

(iii) Identifying areas requiring improvement;

(iv) Identifying hazards to operations.

(v)   Assessing the effectiveness of safety risk controls. **[SMS] (GM)**

> *Note: If the quality assurance audit function is performed by an external organization, the Operator, as the AOC holder, shall be responsible for ensuring the quality assurance program is in conformity with the specifications of this provision.*

Auditor Actions

☐ **Identified/Assessed** role/organization/structure of quality assurance program.

☐ **Interviewed** quality assurance program manager.

☐ **Examined** audit program objectives and procedures.

☐ **Examined** examples of management/operational areas identified as requiring improvement.

☐ **Examined** method(s) used for processing hazards identified through quality assurance audits.

☐ **Assessed** implementation of QA audit program in all operational areas.

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Quality Assurance.

The quality assurance program comprises two complementary functions: To monitor an operator's compliance with relevant regulations and standards, as well as to evaluate and continually improve operational safety performance. Such functions are elements of the Safety Assurance component of the SMS framework.

In some organizations the quality assurance program may have a different name (e.g. internal audit program, internal evaluation program).

In certain circumstances, an operator may have the quality assurance audit function performed by an external organization. This typically occurs when the operator is affiliated with one or more other organizations in a Group Company. However, an operator might also choose to simply outsource the quality assurance audit function to a qualified external service provider that is not part of or

associated with a Group Company. In both cases, the operator, as the AOC holder, has the ultimate responsibility for ensuring the quality assurance program meets the needs of its organization in accordance with the specifications of this standard. A robust program ensures a scope of auditing that encompasses all areas of the organization that impact operational quality in terms of safety and/or security Operational functions include flight operations, operational control/flight dispatch, maintenance operations, cabin operations, ground handling and cargo operations.

This provision is designed to permit flexibility in the implementation of the quality assurance program.

The structure and organization of the program within an operator's management system, whether centralized, non-centralized or a combination thereof, is at the discretion of the operator in accordance with its corporate culture and regulatory environment.

An effective audit program includes:

- Audit initiation, including scope and objectives;
- Planning and preparation, including audit plan and checklist development;
- Observation and gathering of evidence to assess documentation and implementation;
- Analysis, findings, actions;
- Reporting and audit summary;
- Follow-up and close out.

To ensure auditors gather sufficient evidence to produce realistic assessments during an audit, the program typically includes guidance that defines the various sampling techniques that are expected to be used by auditors in the evidence collection phase of the audit.

The audit process typically includes a means whereby the auditor and responsible personnel from the audited area have a comprehensive discussion and reach agreement on the findings and corresponding corrective actions. Clear procedures are established to resolve any disagreement between the auditor and audited area.

All action items require follow-up to ensure closeout within an appropriate period of time.

ORG 2.1.2

The Operator shall have a designated manager with appropriate qualifications, authority and independence that is responsible for:

(i) The performance of the quality assurance program;

(ii) Ensuring communication and coordination with operational managers in the management of operational risk;

(iii) Dissemination of information to management and non-management operational personnel as appropriate to ensure an organizational awareness of relevant quality assurance issues and results. **(GM)**

Note: If the Operator outsources operational functions to an external service provider, the use of the external service provider's quality assurance program manager for the purpose of conforming to the specifications of this provision shall be considered a conflict of interest, unless the Operator and the external service provider are both affiliates within the same Group Company.

Auditor Actions

☐ **Identified** quality assurance program manager.

☐ **Examined** job description of quality assurance program manager (background/duties/responsibilities).

☐ **Interviewed** quality assurance program manager.

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Quality Assurance Manager.

The designated manager (or multiple managers if an operator does not have a centralized program) is appointed to oversee the implementation of the activities and processes associated with the quality assurance program.

The exact title of the manager(s) designated as responsible for the quality assurance program may vary depending on the organization.

Operational managers have direct responsibility for the safety and security of operations, and therefore always have the authority to develop and implement corrective action as necessary to address audit findings in their respective areas of operations.

The manager of the quality assurance program is "operationally independent" in a manner that ensures objectivity is not subject to bias due to conflicting responsibilities.

To be effective, an individual designated as manager of the quality assurance program has appropriate qualifications for the position, which may include:

- Formal training or certification as a quality auditor;
- Relevant operational and auditing experience;
- Formal training in risk management.

Quality assurance audit activities may be centrally controlled or controlled within each relevant operational function as long as independence is maintained.

Typically, the manager of the quality assurance program has direct lines of communication to senior management to ensure the efficient reporting of safety and security issues, and to ensure such issues are appropriately addressed.

An effective quality assurance program includes the dissemination of appropriate information for the purpose of maintaining an ongoing awareness of quality assurance results that might affect compliance, operational safety or security or identify opportunities for improvement. As an example, such information might include a summary of audit program results such as finding, causation, risk, error trends and opportunities for continuous improvement.

The method of dissemination is commensurate with the target audience and the size of the organization. Typical means could include periodic briefings or presentations, or the issuance of magazines, newsletters or bulletins in either an electronic or paper form.

In certain circumstances, an operator may have the quality assurance audit function performed by an external organization. In such cases, the operator will still ensure its quality assurance program has a manager in accordance with the specifications of this standard.

ORG 2.1.3–2.1.4   (Intentionally open)

ORG 2.1.5

The Operator shall have an audit planning process and sufficient resources to ensure audits are:

(i)   Scheduled at intervals to meet regulatory and management system requirements;

(ii)   Completed within a specified time period. **(GM)**

Auditor Actions

☐   **Identified/Assessed** planning process quality assurance auditing of the organization (management/operations).

☐   **Identified/Assessed** resources (human and physical) allocated and available for quality assurance auditing.

☐   **Interviewed** quality assurance program manager.

☐   **Crosschecked** audit plan with selected audit reports to verify adherence to plan.

☐   **Assessed** implementation of the audit plan in all operational areas.

☐   **Other Actions** (Specify)

Guidance

The planning process produces a schedule of all audit modules to be conducted within the planning period (e.g., calendar year) and reflect the status of each audit module, to include the applicable audit interval (e.g., 12, 24, 36 months), the date of the previous audit and the scheduled due date for the next audit.

The planning process would typically include provisions for re-scheduling or deferral of audits in accordance with the operator's program limitations.

Refer to IAH for information relevant to planning and resources associated with auditing of the ISARPs.

ORG 2.1.6   (Intentionally open)

ORG 2.1.7

The Operator shall have a process for addressing findings that result from audits conducted under the quality assurance program, which ensures:

  (i)   Identification of root cause(s);

  (ii)   Development of corrective action as appropriate to address findings;

  (iii) Implementation of corrective action in appropriate operational area(s);

  (iv)   Evaluation of corrective action to determine effectiveness. **(GM)**

Auditor Actions

☐ **Identified/Assessed** process for addressing quality assurance audit findings.

☐ **Interviewed** quality assurance program manager.

☐ **Examined** selected audit reports (details of root cause analysis, closure of audit findings).

☐ **Examined** selected audit reports/records (details of corrective action implemented, evaluated for effectiveness).

☐ **Assessed** implementation/evaluation of corrective actions in all operational areas.

☐ **Other Actions** (Specify)

Guidance

Certain audit findings might fall under the category of hazards to operations. In such cases, the hazard would be subject to the risk assessment and mitigation process in the development of corrective action.

Refer to the IAH for information relevant to auditing under the quality assurance program.

ORG 2.1.8

The Operator shall ensure the quality assurance program utilizes auditors that are impartial and functionally independent from the operational activities to be audited. **(GM)**

Note: If the Operator outsources operational functions to an external service provider and uses auditing as the process to monitor the external service provider as specified in ORG 2.2.1, *the use of the external service provider's auditors to perform such auditing shall be considered a conflict of interest, unless the Operator and the external service provider are both affiliates within the same Group Company.*

Auditor Actions

☐ **Identified/Assessed** selection and qualification criteria for quality assurance program auditors.

☐ **Interviewed** quality assurance program manager.

☐ **Crosschecked** selected audit reports to confirm auditors qualified for and independent from activities audited.

☐ **Interviewed** quality assurance auditor(s) to verify individual qualifications and functional independence.

☐ **Other Actions**

Guidance

A quality assurance program is independent in a manner that permits the scheduling and conduct of audits as deemed appropriate for the size and scope of operations. Functional independence ensures auditors are not put in a position where their objectivity may be subject to bias due to conflicting responsibilities.

A code of conduct may be used to enhance the impartiality and independence of auditors. An effective auditor code of ethics would require auditors:

- To act in a strictly trustworthy and unbiased manner in relation to both the organization to which they are employed, contracted or otherwise formally engaged and any other organization involved in an audit performed by them or by personnel under their direct control;

- To disclose to their employer any relationship they may have with the organization to be audited before undertaking any audit function in respect of that organization;

- Not to accept any gift, commission, discount or any other profit from the organization audited, from their representatives, or from any other interested person nor knowingly allow personnel for whom they are responsible to do so;

- Not to disclose the findings, or any part of them, nor to disclose any other information gained in the course of the audit to any third party, unless authorized in writing by both the auditee and the audit organization, if applicable;

- Not to act in any way prejudicial to the reputation or interest of the audit organization; and

- In the event of any alleged breach of this code, to co-operate fully in any formal enquiry procedure.

An auditor may be considered functionally independent from the operational activities to be audited when he/she is not responsible for the activity being audited (at the time of the audit). For example, a flight crew member may audit line flight operations from the flight deck jump seat as an independent observer (supernumerary) but may not do so when functioning as part of the operating crew (or functioning as an augmenting crew member).

Refer to the IAH for information relevant to auditor qualification and independence.

2.2   External Monitoring

△   **ORG 2.2.1**

The Operator shall have processes to monitor external service providers that conduct outsourced operational functions for the Operator to ensure requirements that affect the safety and/or security of operations are being fulfilled. **(GM)**

△   *Note: IOSA, ISSA or ISAGO registration as the only means to monitor is acceptable provided the Operator obtains the latest of the applicable audit report(s) through official program channels and considers the content of such report(s).*

Auditor Actions

- ☐ **Identified/Assessed** processes for monitoring external service providers that conduct outsourced operational functions.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected records/reports resulting from monitoring of service providers (focus: monitoring process ensures provider is fulfilling applicable safety/security requirements).
- ☐ **Coordinated** to verify implementation of service provider monitoring in applicable operational areas.
- ☐ **Other Actions** (Specify)

Guidance

An operator has a responsibility to ensure outsourced operational functions are conducted in a manner that meets its own operational safety and security requirements. A monitoring process is necessary to satisfy that responsibility, and such process would be applicable to any external service provider that conducts outsourced operational functions, including the parent organization or a separate affiliate of the operator.

In some regulatory jurisdictions, there may be a regulatory control process that permits certain organizations to meet rigorous standards and become approved to conduct outsourced operations or maintenance for an operator. Such regulatory control process would be an acceptable means for

meeting the specification of this provision if it can be demonstrated by the operator that the regulatory control process:

- Includes ongoing monitoring of the approved service providers;
- Such monitoring is sufficiently robust to ensure the approved service providers fulfill the operational requirements of the operator on a continuing basis.

Achieving and maintaining IOSA, ISSA and/or ISAGO registration is a way for an external service provider to demonstrate fulfillment of requirements that affect the safety and/or security of operations. Thus, an operator's process that requires such service providers to maintain IOSA, ISSA and/or ISAGO registration would be acceptable as a method of monitoring when such registration(s) is/are used in conjunction with a risk assessment of the provider.

To ensure effective monitoring, consideration is given to a range of internal and external methods for use in the oversight of external service providers. Methods might include auditing, systematic review and risk assessment of reported hazards and/or occurrences, monitoring of performance output (KPIs), reporting and governance processes; monitoring and analysis of targeted risk areas, as well as the establishment of an effective two-way communication link with the service provider.

Under certain circumstances, operational functions may be involuntarily removed from an operator and conducted by a governmental or quasi-governmental authority that is not under the control of the operator (e.g., passenger or baggage security screening at some airports). Under such circumstances, the operator would have a process to monitor output of the function being conducted by the authority to ascertain desired results are being achieved.

If an operator is part of a Group Company and has management and/or operational functions performed by an affiliate organization that is part of the same Group Company, an operator may demonstrate monitoring of the external organization by processes that ensure functions performed by the affiliate organization for the operator are:

- Subjected to auditing under the quality assurance program of the affiliate organization;
- Continually satisfying the needs of the operator.

2.3–2.4   (Intentionally open)

2.5   Documentation System

△

ORG 2.5.1

The Operator shall have a system for the management and control of documentation and/or data used directly in the conduct or support of operations. Such system shall ensure documentation:

(i)   Meets all required elements specified in Table 1.1;

(ii)   Contains legible and accurate information;

(iii)   Is presented in a format appropriate for use in operations. **(GM)**

Auditor Actions

☐   **Identified/Assessed** system(s) for management and control of operational documentation and data as specified in Table 1.1.

☐   **Interviewed** responsible management representative(s).

☐   **Examined** selected examples of documentation and data used in operations.

☐   **Interviewed** persons involved in the documentation management and control process.

Guidance

Refer to the IRM for the definition of Documentation and Electronic Documentation.

The primary purpose of document control is to ensure necessary, accurate and up-to-date documents are available to those personnel required to use them, to include, in the case of outsourced operational functions, employees of external service providers.

Examples of documents that are controlled include, but are not limited to, operations manuals, checklists, quality manuals, training manuals, process standards, policy manuals, and standard operating procedures.

Documentation received from external sources would include manuals and other types of relevant documents that contain material that is pertinent to the safety of operations conducted by the operator (e.g. regulations, operating standards, technical information and data).

An electronic system of document management and control is an acceptable means of conformance. Within such a system, document files are typically created, maintained, identified, revised, distributed, accessed, presented, retained and/or deleted using computer systems (e.g. a web-based system). Some systems specify immediate obsolescence for any information or data that is downloaded or otherwise extracted (e.g. printed on paper) from the electronic files.

Document control might include:

- Retention of a master copy;
- Examination and approval prior to issue;
- Review and update, to include an approval process;
- Version control (electronic documents);
- Identification of revision status;
- Identification and retention of revisions as history;
- Identification and retention of background or source references as history;
- Distribution to ensure appropriate availability at points of use;
- Checking of documents to verify they remain legible and readily identifiable;
- As required, identification, update, distribution and retention of documents of external origin;
- As applicable, identification and retention of obsolete documents;
- As applicable, disposal of documents.

Additionally, control of operational manuals might include:

- Assignment of an individual with responsibility for approval for contents;
- A title page that generally identifies the operational applicability and functionality;
- A table of contents that identifies parts and sub-parts;
- A preface or introduction outlining the general contents of the manual;
- Reference numbers for the content of the manual;
- A defined distribution method and identification of recipients;
- Identification of responsibility for authorizing the manual;
- A record of revisions, both temporary and permanent;
- A list of effective pages within the manual;
- Identification of revised content.

Each "loose" documented procedure that is not held within a manual typically includes:

- A title page that identifies the operational applicability and functionality;
- Identification of the date(s) of issue and date of effectiveness;
- Reference numbers for the content;
- A distribution list;
- Identification of responsibility for authorizing the document.

ORG 2.5.2–2.5.3   (Intentionally open)

△   **ORG 2.5.4A**

The Operator shall have SMS documentation that includes:

(i)   The safety policy and objectives;

(ii)   SMS requirements;

(iii)   SMS processes and procedures;

(iv)   Accountability, authorities and responsibilities for SMS processes and procedures. **[SMS] (GM)**

Note: An SMS manual may be in the form of a stand-alone document or may be integrated with other organizational documents (or documentation) maintained by the Operator.

☐   *Note: This provision is only applicable for ISSA registration renewal assessments.*

Auditor Actions

☐   **Identified/Assessed** management and control system for SMS documentation.

☐   **Interviewed** SMS manager and/or designated management representative(s).

☐   **Examined** SMS documentation.

☐   **Other Actions** (Specify)

Guidance

SMS documentation is an element of the Safety Policy and Objectives component of the SMS framework.

SMS documentation is typically scaled to the size and complexity of the organization, and describes both the corporate and operational areas of safety management to show continuity of the SMS throughout the organization. Typical documentation would include a description of management positions and associated accountabilities, authorities, and responsibilities within the SMS.

To ensure personnel throughout the organization are informed, SMS documentation includes a description of the operator's approach to safety management. Such descriptive information would be contained in a manual and presented in a manner that ensures the SMS information is clearly identifiable. The exact title and structure of such manual will vary with each operator.

Depending on the size, structure and scope of an operator's organization, as well as the complexity of its operations, SMS documentation may be in the form of stand-alone documents or may be integrated into other organizational documents. Requirements for SMS documentation will vary according to the individual state safety program (SSP).

SMS documentation typically addresses:

- Scope of the SMS;
- Safety policy and objectives;
- Safety accountabilities;
- Key safety personnel;
- Documentation control procedures;
- Coordination of emergency response planning;
- Hazard identification and risk management schemes;
- Safety assurance;
- Safety performance monitoring;
- Safety auditing (safety and quality auditing may be combined);
- Management of change;
- Safety promotion;
- Outsourced services.

Expanded guidance may be found in the ICAO SMM, Document 9859.

☐   **ORG 2.5.4B**

The Operator *should* have SMS documentation that includes:

(i)   The safety policy and objectives;

(ii)   SMS requirements;

(iii)   SMS processes and procedures;

(iv)   Accountability, authorities and responsibilities for SMS processes and procedures. **[SMS] (GM)**

Note: An SMS manual may be in the form of a stand-alone document or may be integrated with other organizational documents (or documentation) maintained by the Operator.

Note: This provision is only applicable for initial ISSA assessments.

Auditor Actions

☐ **Identified/Assessed** management and control system for SMS documentation.

☐ **Interviewed** SMS manager and/or designated management representative(s).

☐ **Examined** SMS documentation.

☐ **Other Actions** (Specify)

Guidance

Refer to Guidance Material of ORG 2.5.4A.

2.6   Records System

ORG 2.6.1

The Operator shall have a system for the management and control of operational records to ensure the content and retention of such records is in accordance with requirements of the Authority, as applicable, and to ensure operational records are subjected to standardized processes for:

(i)   Identification;

(ii)   Legibility;

(iii)   Maintenance;

(iv)   Retrieval;

(v)   Protection and security;

(vi)   Disposal, deletion (electronic records) and archiving. **(GM)**

Note: The operational records system specified in this standard shall also include the management and control of SMS operational records.

Auditor Actions

☐ **Identified/Assessed** management and control system for operational records.

☐ **Interviewed** responsible management representative(s).

☐ **Examined** selected examples of operational records.

☐ **Other Actions** (Specify)

Guidance

The system addresses the management and control of all records associated with operations, which includes personnel training records, and also includes any other records that document the fulfillment of operational requirements (e.g. aircraft maintenance, operational control, operational security).

SMS operational records substantiate the ongoing operation of the operator's SMS and may be managed and controlled within either a centralized or standalone records system. SMS operational records typically include or provide a record of the following:

- Hazards register and hazard/safety reports;
- Safety performance indicators (SPIs) and related charts;
- Completed safety risk assessments;
- SMS internal reviews or audits;
- SMS/safety training;
- SMS/safety committee meeting minutes.

3 Risk Management

3.1 Hazard Identification

ORG 3.1.1

The Operator *should* have a hazard identification program that is implemented and integrated throughout the organization, to include:

(i) A combination of reactive and proactive methods for safety data collection;

(ii) Processes for safety data analysis that identify existing hazards and predict future hazards to aircraft operations. **[SMS] (GM)**

Note: Effective 1 March 2024, this recommended practice will be upgraded to a standard.

Auditor Actions

☐ **Identified/Assessed** organizational safety hazard identification program.

☐ **Identified/Assessed** method(s) of safety data collection used for hazard identification.

☐ **Identified/Assessed** method(s) of safety data analysis used for hazard identification.

☐ **Identified/Assessed** process that ensures an organization-wide, cross-discipline integration of the safety hazard identification program.

☐ **Interviewed** SMS manager and/or designated management representative(s).

☐ **Examined** records/documents that illustrate the integration of the hazard identification program across all disciplines throughout the organization.

☐ **Examined** selected examples of hazards to aircraft operations that have been identified through data collection and analysis.

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Hazard (Aircraft Operations) and Safety Risk.

Hazard identification is an element of the Safety Risk Management component of the SMS framework.

The methods used to identify hazards will typically depend on the resources and constraints of each particular organization. Some organizations might deploy comprehensive, technology-intensive hazard identification processes, while organizations with smaller, less complex operations might implement more modest hazard identification processes. Regardless of organizational size or complexity, to ensure all hazards are identified to the extent possible, hazard identification processes are necessarily formalized, coordinated and consistently applied on an on-going basis in all areas of the organization where there is a potential for hazards that could affect aircraft operations.

To be effective, reactive and proactive processes are used to acquire information and data, which are then analyzed to identify existing or predict future (i.e. potential) hazards to aircraft operations.

△ Examples of processes that typically yield information or data for hazard identification include the list below, in parenthesis the general type of process, although many can be used both reactively and proactively:

- Confidential or other reporting by personnel;
- Investigation of accidents, incidents, irregularities and other non-normal events;
- Flight data analysis;
- Observation of flight crew performance in line operations and training;
- Quality assurance and/or safety auditing;
- Safety information gathering or exchange (external sources).

Processes would be designed to identify hazards that might be associated with organizational business changes (e.g. addition of new routes or destinations, acquisition of new aircraft type(s), the introduction of significant outsourcing of operational functions).

Typically hazards are assigned a tracking number and recorded in a log or database. Each log or database entry would normally include a description of the hazard, as well as other information necessary to track associated risk assessment and mitigation activities.

Expanded guidance may be found in the ICAO SMM, Document 9859.

ORG 3.1.2

The Operator shall have an operational safety reporting system that is implemented throughout the organization in a manner that:

    (i)   Encourages and facilitates personnel to submit reports that identify safety hazards, expose safety deficiencies and raise safety concerns;

    (ii)   Ensures mandatory reporting in accordance with applicable regulations;

    (iii)   Includes analysis and management action as necessary to address safety issues identified through the reporting system. **[SMS] (GM)**

Auditor Actions

☐   **Identified/Assessed** organizational operational safety reporting system.

☐   **Interviewed** SMS manager and/or designated management representative(s).

☐   **Examined** selected records/reports that track safety reporting by operational personnel throughout the organization.

☐   **Other Actions** (Specify)

Guidance

Safety reporting id a key aspect of SMS hazard identification and risk management.

Frontline personnel, such as flight or cabin crew members and maintenance technicians, are exposed to hazards and face challenging situations as part of their everyday activities. An operational reporting system provides such personnel with a means to report these hazards or any other safety concerns so they may be brought to the attention of relevant managers.

To build confidence in the reporting process and encourage more reporting, an acknowledgement of receipt is typically provided to each person that submits a report.

An effective system provides for a review and analysis of each report to determine whether a real safety issue exists, and if so, ensure development and implementation of appropriate action by responsible management to correct the situation.

Expanded guidance may be found in the ICAO SMM, Document 9859.

ORG 3.1.3–3.1.4   (Intentionally open)

ORG 3.1.5

The Operator *should* have a process to identify changes within or external to the organization that have the potential to affect the level of safety risks associated with aircraft operations, and to manage risks that may arise from or are affected by such changes in accordance with ORG 3.1.1 and ORG 3.1.2. **[SMS] (GM)**

Note: Effective 1 March 2025, this recommended practice will be upgraded to a standard.

Auditor Actions

☐   **Identified/Assessed** organizational change management process (focus: process identifies/assesses internal/external changes to determine operational safety risk).

☐   **Interviewed** SMS manager and/or designated management representative(s).

☐   **Examined** selected records/documents that show processing of internal/external changes (focus: assessment of changes to determine safety risk; actions taken to implement/revise new/existing risk controls).

☐   **Coordinated** to verify implementation of change management process in all operational areas.

☐   **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Change Management.

Change management is an element of the Safety Assurance component of the SMS framework and is considered a proactive hazard identification activity in an SMS.

Safety risk management requires an operator to have a formal process to identify hazards that may affect aircraft operations. Hazards may exist in ongoing aircraft operations or be inadvertently introduced whenever internal or external changes occur that could affect aircraft operations. In such cases, hazard identification as specified in ORG 3.1.1 and safety risk assessment and mitigation as specified in ORG 3.1.2 (both are repeated in other ISM sections) are integral elements of an operator's change management process.

A change management process is normally designed to ensure risk management is applied to any internal or external change that has the potential to affect an operator's established operational processes, procedures, products, equipment and services.

The change management process typically takes into account the following three considerations:

- *Criticality*. Criticality assessments determine the systems, equipment or activities that are essential to the safe operation of aircraft. While criticality is normally assessed during the system design process, it is also relevant during a situation of change. Systems, equipment and activities that have higher safety criticality are reviewed following change to make sure that corrective actions can be taken to control potentially emerging safety risks.

- *Stability of systems and operational environments*. Changes might be planned and under the direct control of the operator. Examples of such changes include organizational growth or contraction, the expansion of products or services delivered, or the introduction of new technologies. Changes might also be unplanned and external to the operator, such as changing economic cycles, labor unrest and changes to the political, regulatory or operating environments.

- *Past performance*. Past performance of critical systems and trend analyses in the safety assurance process is typically employed to anticipate and monitor safety performance under situations of change. The monitoring of past performance will also assure the effectiveness of corrective actions taken to address safety deficiencies identified as a result of audits, evaluations, investigations or reports.

Expanded guidance may be found in the ICAO SMM, Document 9859.

3.2 Risk Assessment and Mitigation

ORG 3.2.1

The Operator *should* have a safety risk assessment and mitigation program that includes processes implemented and integrated throughout the organization to ensure:

(i) Hazards are analyzed to determine corresponding safety risks to aircraft operations;

(ii) Safety risks are assessed to determine the requirement for risk mitigation action(s);

(iii) When required, risk mitigation actions are developed and implemented in operations.
[SMS] (GM)

Note: Effective 1 March 2024, this recommended practice will be upgraded to a standard.

Auditor Actions

☐ **Identified/Assessed** organizational safety risk assessment and mitigation program.

☐ **Identified/Assessed** process that ensures an organization-wide, cross-discipline integration of the safety risk assessment and mitigation program.

☐ **Interviewed** SMS manager and/or designated management representative(s).

☐ **Examined** records/documents that illustrate the integration of the risk assessment and mitigation program throughout the organization.

☐ **Examined** selected records/documents that provide examples of risk assessment and resulting risk mitigation action(s).

☐ **Other Actions** (Specify)

Guidance

Refer to IRM for the definition of Safety Risk Assessment (SRA).

Risk assessment and mitigation is an element of the Safety Risk Management component of the SMS framework.

To be completely effective, a risk assessment and mitigation program would typically be implemented in a manner that:

- Is active in all areas of the organization where there is a potential for hazards that could affect aircraft operations;
- Has some form of central coordination to ensure all existing or potential hazards that have been identified are subjected to risk assessment and, if applicable, mitigation.

The safety risks associated with an identified existing or potential hazard are assessed in the context of the potentially damaging consequences related to the hazard. Safety risks are generally expressed in two components:

- Likelihood of an occurrence;
- Severity of the consequence of an occurrence.

Typically, matrices that quantify safety risk acceptance levels are developed to ensure standardization and consistency in the risk assessment process. Separate matrices with different risk acceptance criteria are sometimes utilized to address long-term versus short-term operations.

A risk register is often employed for the purpose of documenting risk assessment information and monitoring risk mitigation (control) actions.

Expanded guidance may be found in the ICAO SMM, Document 9859.

ORG 3.2.2

The Operator *should* have a process to identify changes within or external to the organization that have the potential to affect the level of safety risks associated with aircraft operations, and to manage risks that may arise from or are affected by such changes in accordance with ORG 3.1.1 and ORG 3.1.2. **[SMS] (GM)**

Note: Effective 1 November 2024, this recommended practice will be upgraded to a standard.

Auditor Actions

☐ **Identified/Assessed** organizational change management process (focus: process identifies/assesses internal/external changes to determine operational safety risk).

☐ **Interviewed** SMS manager and/or designated management representative(s).

☐ **Examined** selected records/documents that show processing of internal/external changes (focus: assessment of changes to determine safety risk; actions taken to implement/revise new/existing risk controls).

☐ **Coordinated** to verify implementation of change management process in all operational areas.

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Change Management.

Change management is an element of the Safety Assurance component of the SMS framework and is considered a proactive hazard identification activity in an SMS.

Safety risk management requires an operator to have a formal process to identify hazards that may affect aircraft operations. Hazards may exist in ongoing aircraft operations or be inadvertently introduced whenever internal or external changes occur that could affect aircraft operations. In such cases, hazard identification as specified in ORG 3.1.1 and safety risk assessment and mitigation as

specified in ORG 3.1.2 (both are repeated in other ISM sections) are integral elements of an operator's change management process.

A change management process is normally designed to ensure risk management is applied to any internal or external change that has the potential to affect an operator's established operational processes, procedures, products, equipment and services.

The change management process typically takes into account the following three considerations:

- *Criticality*. Criticality assessments determine the systems, equipment or activities that are essential to the safe operation of aircraft. While criticality is normally assessed during the system design process, it is also relevant during a situation of change. Systems, equipment and activities that have higher safety criticality are reviewed following change to make sure that corrective actions can be taken to control potentially emerging safety risks.

- *Stability of systems and operational environments*. Changes might be planned and under the direct control of the operator. Examples of such changes include organizational growth or contraction, the expansion of products or services delivered, or the introduction of new technologies. Changes might also be unplanned and external to the operator, such as changing economic cycles, labor unrest and changes to the political, regulatory or operating environments.

- *Past performance*. Past performance of critical systems and trend analyses in the safety assurance process is typically employed to anticipate and monitor safety performance under situations of change. The monitoring of past performance will also assure the effectiveness of corrective actions taken to address safety deficiencies identified as a result of audits, evaluations, investigations or reports.

Expanded guidance may be found in the ICAO SMM, Document 9859.

3.3   Flight Data Analysis

ORG 3.3.1

The Operator shall have a flight data analysis program that provides for the identification of hazards and the analysis of information and data associated with aircraft operations, to include:

(i)   Implementation of systematic processes for identifying and analyzing hazards and potentially hazardous conditions;

(ii)   Production of relevant analytical information and data for use by operational managers in the prevention of accidents and incidents. **[SMS] (GM)**

Auditor Actions
- □ **Identified/Assessed** role/organization/structure of flight safety analysis program.
- □ **Interviewed** SMS manager and/or designated management representative(s).
- □ **Interviewed** flight safety analysis program manager.
- □ **Interviewed** selected operational managers.
- □ **Examined** examples of hazards identified under the flight safety analysis program.
- □ **Examined** examples of information/data provided to operational managers for use in the management of safety risk.
- □ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Flight Safety Analysis Program.

A primary function of a flight safety analysis program is hazard identification, which is an element of the Safety Risk Management component of the SMS framework.

In many organizations the flight safety analysis program is typically known as the flight safety program.

The flight safety analysis program primarily provides operational hazard identification and data analysis services for use by operational managers.

For some operators the flight safety analysis program is part of an independent corporate safety structure, which typically has a direct line of reporting to senior management. This type of structure allows an effective and fully integrated system of prevention and safety across all relevant operational disciplines of the organization.

Other operators choose to have a flight safety analysis program reside within an operational unit (e.g., flight operations). In this type of system, to ensure objectivity in addressing safety matters and independence from frontline operational managers, the program manager would not only have a direct reporting line to the head of that operational unit, but also an indirect reporting line to senior management.

Documentation of the program typically includes a description of the structure, individual responsibilities, available resources and core processes associated with the program.

Expanded guidance may be found in the ICAO SMM, Document 9859.

ORG 3.3.2

If the Operator conducts flights with aircraft of a maximum certified takeoff mass in excess of 27,000 kg (59,525 lb), the Operator shall have a flight data analysis (FDA) program applicable to such aircraft that is non-punitive and contains adequate safeguards to protect data sources. The FDA program shall include *either*:

   (i)   A systematic download and analysis of electronically recorded aircraft flight data, *or*

   (ii) A systematic acquisition, correlation and analysis of flight information derived from a combination of some or all of the following sources:

      (a) Aircraft flight data recorder (FDR) readouts;

      (b) Confidential flight and cabin crew operational safety reports;

      (c) Flight and cabin crew interviews;

      (d) Quality assurance findings;

      (e) Flight and cabin crew evaluation reports;

      (f) Aircraft engineering and maintenance reports. **[SMS] (GM)**

Auditor Actions

☐ **Identified/Assessed** flight data analysis (FDA) program (focus: download/analysis of recorded flight data; defined criteria for non-discipline; identification of existing/potential flight safety hazards; production of recommendations to mitigate risk).

☐ **Interviewed** responsible manager(s).

☐ **Interviewed** FDA analyst(s).

☐ **Observed** FDA resources and activities.

☐ **Examined** selected FDA program data/reports (focus: analysis of data; identification of flight safety hazards; recommendations to mitigate risk).

☐ **Crosschecked** to verify sources of FDA information in applicable operational areas.

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Flight Data Analysis (FDA) Program.

Flight data analysis is considered a *reactive* and *proactive* hazard identification activity in an SMS.

A primary purpose of an FDA program is hazard identification, which is an element of the Safety Risk Management component of the SMS framework.

The systematic download and analysis of recorded flight data has been used by international airlines for many years to identify hazards, evaluate the operational environment, validate operating criteria and establish training effectiveness.

As a minimum, an acceptable program for the analysis of recorded aircraft flight data includes the following elements:

- A manager and staff of flight operations experts, commensurate with the size of the operation, to provide verification and analysis of the data collected from the aircraft fleet under the operator's program;
- Aircraft designated within the operator's fleet that provide downloadable flight data from onboard recording systems, such as the flight data recorder (FDR) or quick access recorder (QAR);
- A system for downloading and transferring recorded data from the aircraft to a data analysis system;
- A data analysis system that transforms raw digital data into a usable form of information that can then be verified, processed, categorized and analyzed by flight operations experts for flight safety purposes;
- A process for applying the output from flight data analysis to the management of risk and assessment of flight operations performance;
- A process for management of the data, to include security and retention.

All or certain of the elements could be outsourced to an external party; however, the operator would retain overall responsibility for the maintenance of the program.

The most comprehensive approach to flight data analysis would be a program that includes not only systematic download and analysis of electronically recorded aircraft flight data (as described above), but also acquisition, correlation and analysis of flight information derived from other sources (as described below).

Further guidance may be found in the following source documents:

- CAO Doc 9859, Safety Management Manual, and ICAO Doc 10000, Manual on Flight Data Analysis Programmes (FDAP).
- CASA CAAP SMS-4(0), Guidance on the establishment of a Flight Data Analysis Program (FDAP)–Safety Management Systems (SMS).
- FAA Advisor Circular AC No: 120-82, Flight Operational Quality Assurance.
- UK CAA CAP 739, Flight Data Monitoring.

If an operator does not have a process for the regular download and analysis of recorded flight data, then as an alternative the operator may have a systematic process for acquiring and correlating flight information from other sources that can be analyzed to identify hazards or potential hazards to flight.

Useful information can be derived from external sources to supplement flight data derived internally. Other such sources include:

- Regulatory authorities;
- Investigative bodies;
- Safety organizations;
- Manufacturers;
- Other operators.

Flight information is analyzed collectively to identify hazards, system weaknesses, process breakdowns, regulatory violations and other trends or conditions that could potentially lead to accidents or serious incidents. The process includes a method of risk analysis and prioritization to enable the development and implementation of effective corrective or preventive action.

3.4   (Intentionally open)

3.5   Occurrence Handling

ORG 3.5.1

The Operator shall have a process for the investigation of aircraft accidents and incidents, to include reporting of events in accordance with requirements of the State. **[SMS] (GM)**

Auditor Actions

☐   **Identified/Assessed** accident investigation process, to include compliance with reporting requirements.

☐   **Interviewed** responsible manager(s).

☐   **Examined** selected accident and incident reports.

☐   **Other Actions** (Specify)

Guidance

Accident and incident investigation is considered a *reactive* hazard identification activity in an SMS.

A primary purpose of accident and incident investigation is hazard identification, which is an element of the Safety Risk Management component of the SMS framework.

Investigations typically result in a report that describes the factors that contributed to the event, which is then made available to responsible senior operational managers to permit them to evaluate and implement appropriate corrective or preventive action.

An effective investigation process typically includes:

- Qualified personnel to conduct investigations (commensurate with operation size);
- Procedures for the conduct of investigations;
- A process for reporting investigative results;
- A system for implementing any corrective or preventive action;
- An interface with relevant external investigative authorities (when applicable);
- A process for the dissemination of information derived from investigations.

To ensure awareness among operational personnel, information derived from investigations is disseminated to relevant areas throughout the organization.

In the event of a major accident, an operator responds to and possibly participates in an investigation in accordance with provisions contained in ICAO Annex 13. Such capability requires an operator to maintain an ongoing interface with relevant investigative authorities to ensure preparedness in the event a major accident occurs.

Expanded guidance may be found in the ICAO SMM, Document 9859.

△   **ORG 3.5.2A**

The Operator shall have a process for identifying and investigating irregularities and other non-routine operational occurrences that might be precursors to an aircraft accident or incident. **[SMS] (GM)**

☐   *Note: This provision is only applicable for ISSA registration renewal assessments.*

Auditor Actions

☐   **Identified/Assessed** process for identification/investigation of irregularities/non-routine occurrences (focus: process output includes final report with recommendations).

☐   **Interviewed** responsible manager(s).

☐   **Examined** selected irregularity/non-routine occurrence reports (focus: process identifies operational safety hazards, produces recommendations to mitigate risk).

☐   **Other Actions** (Specify)

Guidance

Investigation of operational irregularities is considered a reactive hazard identification activity in an SMS.

A primary purpose of investigating non-routine operational occurrences is hazard identification, which is an element of the Safety Risk Management component of the SMS framework.

The investigation of irregularities or non-routine occurrences is a hazard identification activity. Minor events, irregularities and occurrences occur often during normal operations, many times without noticeable consequences. Identifying and investigating certain irregular operational occurrences can reveal system weaknesses or deficiencies that, if left un-checked, could eventually lead to an accident or serious incident. These types of events are referred to as accidentprecursors.

A process to monitor operations on a regular basis permits the identification and capture of information associated with internal activities and events that could be considered precursors. Such events are then investigated to identify undesirable trends and determine contributory factors.

The monitoring process is typically not limited to occurrences, but also includes a regular review of operational threats and errors that have manifested during normal operations. Monitoring of normal operations can produce data that further serve to identify operational weaknesses and, in turn, assist the organization in developing system solutions.

As with the investigation of accidents and serious incidents, the investigation of minor internal occurrences results in a report that is communicated to relevant operational managers for analysis and the possible development of corrective or preventive action.

Expanded guidance may be found in the ICAO SMM, Document 9859.

☐ **ORG 3.5.2B**

The Operator *should* have a process for identifying and investigating irregularities and other non-routine operational occurrences that might be precursors to an aircraft accident or incident. **[SMS] (GM)**

☐ *Note: This provision is only applicable for initial ISSA assessments.*

Auditor Actions

☐ **Identified/Assessed** process for identification/investigation of irregularities/non-routine occurrences (focus: process output includes final report with recommendations).

☐ **Interviewed** responsible manager(s).

☐ **Examined** selected irregularity/non-routine occurrence reports (focus: process identifies operational safety hazards, produces recommendations to mitigate risk).

☐ **Other Actions** (Specify)

Guidance

Refer to Guidance Material of ORG 3.5.2A.

4 Improvement, Promotion and Training

4.1 Management Review

⚠

ORG 4.1.1

The Operator shall have processes to monitor and review the management system in order to maintain or improve the overall effectiveness. Such processes shall include a management review at intervals not exceeding one year, to ensure its continuing suitability, adequacy and effectiveness in the management and control of operations and associated risks. The monitoring and review processes shall include assessing opportunities for improvement and the need for changes to the system, including, but not limited to:

    (i)   Organizational structure;

    (ii)   Defined safety objectives;

    (iii) Reporting lines, authorities, responsibilities;

    (iv) Policies, processes and procedures;

    (v)   Allocation of resources;

    (vi) Identification of training needs. **[SMS] (GM)**

Auditor Actions

☐ **Identified/Assessed** corporate management review process (focus: process identifies organizational opportunities for changes/improvement to management system).

☐ **Interviewed** AE and/or designated management representative(s).

☐ **Examined** selected records of management review meetings.

☐ **Examined** selected examples of output from management review process (focus: changes implemented to improve organizational performance).

☐ **Other Actions** (Specify)

Guidance

Management review is a necessary element of a well-managed company that provides a medium through which organizational control and continual improvement can be delivered. To be effective, a formal management review takes place on a regular basis, typically once or more per year. The management review would focus on the entire management system.

The management review would typically be conducted by a strategic committee of senior management officials that are familiar with the workings and objectives of the management system. If the review of the SMS is conducted separately, such committee is typically referred to as a Safety Review Board (SRB), which is a very high level, strategic committee chaired by the AE and composed of senior managers, including senior line managers responsible for functional areas in operations (e.g. flight operations, engineering and maintenance, cabin operations).

To ensure frontline input as part of the review process, an operator would form multiple units of specially selected operational personnel (e.g. managers, supervisors, frontline personnel) that function to oversee safety in areas where operations are conducted. Such units are typically referred to as Safety Action Groups (SAGs), which are tactical committees that function to address implementation issues in frontline operations to satisfy the strategic directives of the SRB.

An appropriate method to satisfy this requirement is a periodic formal meeting of senior executives. The agenda of the meeting would typically include a general assessment of the management system to ensure all defined elements are functioning effectively and producing the desired operational safety outcomes consistent with defined safety objectives.

Senior management ensures deficiencies identified during the management review are addressed through the implementation of organizational changes that will result in improvements to the management system.

Input to the management review process would typically include:

- Results of audits;
- Findings from operational inspections and investigations;
- Operational feedback;
- Incidents and near-miss reports;
- Changes in regulatory policy or civil aviation legislation;
- Process performance and organizational conformance;
- Status of corrective and preventative actions;
- Results from implementation or rehearsal of the emergency response plan (ERP);
- Follow-up actions from previous management reviews;
- Feedback and recommendations for management system improvement;
- Regulatory violations.

Output from the management review process would typically include decisions and actions related to:

- Improvement of the processes throughout the management system;
- Safety and security requirements;
- Resource needs.

The management review is a formal process, which means documentation in the form of meeting schedules, agendas and minutes are produced and retained. Additionally, the output of the management review process would normally include action plans for changes to be implemented within the system where deemed appropriate.

Examples of strategies that might improve the overall effectiveness of the management review process include:

- Integrating the management review meeting into other performance review meetings;
- Scheduling management review meetings frequently enough to ensure any action that might be required is timely;
- Ensuring senior managers understand their responsibilities as part of the review process;
- Ensuring action items resulting from meetings are documented and progress is tracked;
- Ensuring there is always a responsible name associated with action items.

Expanded guidance related to review of the SMS may be found in the ICAO SMM, Document 9859.

ORG 4.1.2–4.1.3   (Intentionally open)

4.2   Safety Communication

△
ORG 4.2.1A
The Operator shall have a system that enables effective communication of safety and operational information throughout the management system and in all areas where operations are conducted. Such system shall ensure:

- (i)   Personnel maintain an awareness of the SMS;
- (ii)   Safety-critical information is conveyed;
- (iii)   External service providers are provided with information relevant to operations conducted.
[SMS] (GM)

☐   *Note: This provision is only applicable for ISSA registration renewal assessments.*

Auditor Actions

☐ **Identified/Assessed** corporate system(s) for communicating of safety information throughout the organization.

☐ **Interviewed** accountable executive and/or designated management representative(s).

☐ **Examined** examples of safety information communication.

☐ **Other Actions** (Specify)

Guidance

Safety communication is an element of the Safety Promotion component of the SMS framework.

An effective communication system ensures the exchange of operational and safety-related information throughout all areas of the organization and includes senior managers, operational managers and front-line personnel.

To be totally effective, the communication system would also include external organizations that conduct outsourced operational functions. Communication with external service providers would typically be limited to information that is pertinent and relevant to the provider's services delivered to the operator. It would be at the operator's discretion to define the extent and content of such communication and the delivery method(s) to be used.

Methods of internal communication will vary according to the size and scope of the organization. However, to be effective, methods are as uncomplicated and easy to use as is possible and facilitate the reporting of operational deficiencies, hazards or concerns by operational personnel.

Specific methods of communication between management and operational personnel could include:

- Email, Internet;
- Safety or operational reporting system;
- Communiqués (e.g. letters, memos, bulletins);
- Publications (e.g. newsletters, magazines).

If email is used as an official medium for communication with operational personnel, the process is typically formalized by the operator to ensure control and effectiveness.

The general intent of safety communication is to foster a positive safety culture in which all employees receive ongoing information on safety issues, safety metrics, specific hazards existing in the workplace and initiatives to address known safety issues. Such communication typically conveys safety-critical information, explains why particular actions are taken to improve safety and why safety procedures are introduced or changed.

Information and issues relevant to safety performance are typically derived from various sources such as, but not limited to, the quality assurance/flight safety analysis programs, operational safety reporting and accident/incident investigations.

Expanded guidance related to review of the SMS may be found in the ICAO SMM, Document 9859.

☐ **ORG 4.2.1B**

The Operator *should* have a system that enables effective communication of safety and operational information throughout the management system and in all areas where operations are conducted. Such system *should* ensure:

(i) Personnel maintain an awareness of the SMS;

(ii) Safety-critical information is conveyed;

(iii) External service providers are provided with information relevant to operations conducted. **[SMS] (GM)**

☐ *Note: This provision is only applicable for initial ISSA assessments.*

Auditor Actions

☐ **Identified/Assessed** corporate system(s) for communicating of safety information throughout the organization.

☐ **Interviewed** accountable executive and/or designated management representative(s).

☐ **Examined** examples of safety information communication.

☐ **Other Actions** (Specify)

Guidance

Refer to Guidance Material of ORG 4.2.1A.

4.3   Training

△

ORG 4.3.1A

The Operator shall have a program that ensures personnel throughout the organization are trained to understand SMS responsibilities and competent to perform associated duties. The scope of such training shall be appropriate to each individual's involvement in the SMS. **[SMS] (GM)**

Note: The specifications of this provision are applicable to personnel of the Operator.

☐   *Note: This provision is only applicable for ISSA registration renewal assessments.*

Auditor Actions

☐ **Identified/Assessed** SMS training program (focus: program ensures training for the operator's personnel as appropriate to individual SMS involvement).

☐ **Interviewed** SMS manager and/or designated management representative(s).

☐ **Examined** selected SMS training curricula/syllabi (focus: personnel are trained to understand SMS responsibilities and to perform associated SMS duties).

☐ **Examined** selected management/non-management personnel training records (focus: completion of SMS training relevant to individual involvement in the SMS).

☐ **Assessed** program implementation in all operational areas.

☐ **Other Actions** (Specify)

Guidance

SMS training is an element of the Safety Promotion component of the SMS framework.

An SMS typically specifies initial and recurrent safety training standards for personnel that perform operational functions for the operator, to include managers and supervisors, senior managers and the AE.

The content of such training is appropriate to the individual's responsibilities and involvement in the SMS, and typically includes or addresses some or all of the following subject areas:

- Organizational safety policies, goals and objectives;
- Organizational safety roles and responsibilities related to safety;
- Basic safety risk management principles;
- Safety reporting systems;
- Safety management support (including evaluation and audit programs);
- Lines of communication for dissemination of safety information;
- A validation process that measures the effectiveness of training;
- Initial indoctrination and, when applicable, recurrent training requirements.

Expanded guidance may be found in the ICAO SMM, Document 9859.

☐   **ORG 4.3.1B**

The Operator *should* have a program that ensures personnel throughout the organization are trained to understand SMS responsibilities and competent to perform associated duties. The scope of such training *should* be appropriate to each individual's involvement in the SMS. **[SMS] (GM)**

Note: The specifications of this provision are applicable to personnel of the Operator.

Note: This provision is only applicable for initial ISSA assessments.

Auditor Actions

☐   **Identified/Assessed** SMS training program (focus: program ensures training for the operator's personnel as appropriate to individual SMS involvement).

☐   **Interviewed** SMS manager and/or designated management representative(s).

☐   **Examined** selected SMS training curricula/syllabi (focus: personnel are trained to understand SMS responsibilities and to perform associated SMS duties).

☐   **Examined** selected management/non-management personnel training records (focus: completion of SMS training relevant to individual involvement in the SMS).

☐   **Assessed** program implementation in all operational areas.

☐   **Other Actions** (Specify)

Guidance

Refer to Guidance Material of ORG 4.3.1A.

Table 1.1–Documentation System Specifications

ORG 2.1.1 The Operator shall have a system for the management and control of documentation and/or data used directly in the conduct or support of operations. Such system shall comprise the elements specified below. **Note: Refer to the IRM for the definition of Documentation and Electronic Documentation and Paper Documentation.**

Elements		Documentation Types		
		Type 1	Type 2	Type 3
(i)	Identification of the version and effective date of relevant documents and/or data.	**Recommended**	**Recommended**	**Required–See Note**
(ii)	Identification of the title and, if applicable, sub-titles of relevant documents and/or data.	**Recommended**	**Recommended**	**Required–See Note**
(iii)	Distribution and/or dissemination that ensures all users are provided relevant documents and/or data on or before the effective date: (a) Throughout appropriate areas of the organization; (b) To external service providers that conduct outsourced operational functions.	**Required–See Note**	**Required–See Note**	**Required–See Note**
(iv)	Definition of the specific media type(s) designated for presentation or display of the controlled version of relevant documents and/or data.	**Required–See Note**	**Required–See Note**	**Required–See Note**
(v)	Definition of documentation and/or data that is considered to be reproduced and/or obsolete.	**Required–See Note**	**Required–See Note**	**Required–See Note**
(vi)	Review and revision to maintain the currency of relevant documents and/or data.	**Required–See Note**	**Required–See Note**	**Required–See Note**
(vii)	Retention that ensures access to the content of relevant documents and/or data for a minimum period as defined by the Operator.	**Required–See Note**	**Required–See Note**	**Required–See Note**
(viii)	Provision for a scheduled back up by copying and archiving relevant documents and/or data, to include validation of the documents or data being backed up.	**Required–See Note**	**Required–See Note**	**Required–See Note**
(ix)	Identification and allocation of documentation access/user and modification rights.	**Required–See Note**	**Required–See Note**	**Required–See Note**
(x)	Dissemination and/or accessibility of documentation received from external sources such as regulatory authorities and original equipment manufacturers.	**Required–See Note**	**Required–See Note**	**Required–See Note**
(xi)	Identification of requirement for regulatory approval.	**Required–See Note**	**Required–See Note**	**Required–See Note**
Note: Required for conformity with ORG 2.5.1.				

Section 2 — Flight Operations (FLT)

Applicability

Section 2 addresses safety and security requirements for flight operations of eligible operators. To be eligible, an Operator must meet the following criteria:

- Seaplane operations;
- Commercial passenger and/or cargo operations;
- One- or two-pilot operations;
- IFR and/or VFR operations;
- Aircraft below and above 5,700 Kg (12,566lb) MTOW.

The standards and recommended practices in Section 2 are applicable only to those seaplanes and amphibians that are of the type authorized in the Air Operator Certificate (AOC) or equivalent document, and are utilized in commercial passenger and/or cargo operations unless applicability is extended to encompass non-commercial operations as stated in a note immediately under the body of the provision.

Individual provisions or sub-specifications within a provision that:

- Do not begin with a conditional phrase are applicable unless determined otherwise by the Auditor.
- Begin with a conditional phrase ("If the Operator...") are applicable if the operator meets the condition(s) stated in the phrase.

General Guidance

The definitions of technical terms used in this ISSM Section 2, as well as the list of abbreviations and acronyms, are found in the IATA Reference Manual for Audit Programs (IRM).

1 Management and Control

1.1–1.6 (Intentionally open)

1.7 Operations Manual

FLT 1.7.1

The Operator shall have an Operations Manual (OM) for the use of personnel in the flight operations organization, which may be issued in separate parts, and which contains or references the policies, procedures, checklists and other guidance or information necessary for compliance with applicable regulations, laws, rules and Operator standards. As a minimum, the OM shall be managed and controlled in accordance with ORG 2.5.1 and be in accordance with specifications contained in Table 2.2. **(GM)**

Auditor Actions

☐ **Identified/Assessed** operational documents that comprise the OM.

☐ **Identified** external documents referenced in the OM that contain operational information used by flight crew.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** selected parts of OM (focus: contents in accordance with Table 2.2).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure the flight crew will find all information necessary to perform its functions within the OM, or within another document that is referenced in the OM. The OM is identified as a source of operational information approved or accepted for the purpose by the operator or the State.

Guidance and procedures in the OM enable the flight crew to comply with the conditions and limitations specified in the AOC.

1.8   Operations to or from Uncertified Aerodromes

FLT 1.8.1

If the Operator provides scheduled air service for the purpose of transporting persons between one or more uncertified water aerodromes, the Operator shall be authorized to do so in its Air Operator Certificate (AOC). **(GM)**

Auditor Actions

☐ **Identified/Assessed** the documents that authorize the Operator to conduct scheduled air services with passengers utilizing uncertified water aerodromes.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** AOC (focus: information is current and supports scheduled passenger service to uncertified water aerodromes).

☐ **Other Actions** (Specify)

Guidance

Many water aerodromes are uncertified. Typically, state authorities require that scheduled passenger air services be conducted between certified aerodromes. The intent of this provision is to ensure seaplane operators that are utilizing uncertified water aerodromes for scheduled flights are authorized to do so within their Air Operator Certificate (AOC).

FLT 1.8.2

If the Operator conducts scheduled flights to or from uncertified water aerodromes, the Operator shall have a process for assessing their suitability in accordance with the criteria set forth in Table 2.6 and the shall include, as part of or separate from the route manual, a water aerodrome manual documenting:

(i)   The TORA, TODA, and LDA for principal or designated take-off and landing areas;

(ii)   Any protected areas;

(iii) Depths of taxi channels and maneuvering areas;

(iv) Any visual aids for navigation such as wind socks, taxi channel markings and other maritime traffic markers;

(v)   Tide and current information, if applicable;

(vi) Description and/or images of docks, moorings, or other passenger transfer facilities. **(GM)**

Auditor Actions

☐ **Identified/Assessed** the process for assessing and documenting uncertified water aerodromes.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** water aerodrome charts and documentation (focus: uncertified water aerodrome documentation detailing the criteria set out in Table 2.6).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure that, notwithstanding the water aerodrome certification and operating requirements of the state regulator, water aerodromes used regularly by seaplane operators are assessed to conform with recommended safety standards, and that documentation is available to pilots so that they can familiarize themselves with the challenges particular to the locations typically used as part of the operator's route structure.

In accordance with the recommendations in ICAO Annex 14, section 1.4.2, "States should certify aerodromes open to public use." ICAO Annex 6 section 4.1 also requires that ground/water facilities intended for use are adequate for the safe operation of the type of flight to be conducted. Because seaplane operators in some states utilize water aerodromes that are uncertified, the responsibility falls upon the operator to make these assurances.

Water aerodrome environments are more dynamic than airport environments. Because they are generally not purpose-built as aviation infrastructure, they are often used by other vessels and beset by challenges posed by terrain, sea state, and obstacles. Additionally, unlike most airports, many water aerodromes are not certified and lack publications describing the operating details required by pilots to safely utilize them. The responsibility of the operator is to make this information available to the pilots that are operating at these locations.

Water aerodromes are also prone to change. This is particularly the case for uncertified and unmonitored or unmaintained water aerodromes. In these scenarios, the state and safety of fixed docks or floating platforms can change or water hazards and obstacles can develop. In consideration of this, an operator might consider establishing a procedure which enables pilots who are using unmonitored water aerodromes to file status reports that log any changes which could affect their safety or usability. An online forum such as Slack is an effective tool to keep all pilots apprised of changing conditions.

Expanded guidance on water aerodrome certification may be found in the following ICAO documents: APAC Regional Guidance On Requirements For The Design And Operations Of Water Aerodromes For Seaplane Operations and the APAC Water Aerodrome Working Group Meeting (APAC WAWG−WP04).

FLT 1.8.3

If the Operator is utilizing uncertified water aerodromes, the Operator *should* have a process for evaluating and categorizing these aerodromes and areas of intended use based on the operational and environmental challenges posed to flight crews at each location. The considerations for this operational assessment are summarized in Table 2.6. This system *should* be integrated into the operator's line qualifications system such that:

  (i)   Line qualification should include training and LIFUS criteria for pilots to operate at water aerodromes based on the water aerodrome category;

  (ii) Experience requirements should be established for pilots to operate at the various water aerodrome categories;

  (iii) Pilot experience and training requirements should be set for pilots operating at unfamiliar water aerodromes that are not documented as part of the operator's regular route structure. **(GM)**

Auditor Actions

☐ **Identified/Assessed** procedures for evaluating and categorizing regularly used water aerodromes.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** Route manual or other documentation pertaining to assessment of water aerodromes (focus: categorization elements consistent with specifications in Table 2.6).

☐ **Examined** selected flight crew member training/qualification records (focus: LIFUS and experience qualifications for water aerodrome categories and use of unfamiliar water aerodromes).

☐ **Other Actions** (Specify)

Guidance

Operating aircraft on the water differs significantly from operating to and from land-based airports. Water aerodromes can pose challenges to seaplane pilots that require flying and pilot decision-making skills which are developed through experience. By identifying the challenges associated with the individual water aerodromes in their route structure and evaluating the risks associated with them, the operator can thereby ensure that the most qualified pilots are assigned to those routes and locations where increased skill and experience is required as well as ensuring that pilots are familiarized and assessed for each location with LIFUS training.

An example of an aerodrome classification system could include three categories:

- **Category 1** would apply to water aerodromes for which there are no performance limitations or obstacle considerations in the approach and departure paths or within the take-off and landing areas.

- **Category 2** would apply to water aerodromes that have obstacle considerations, that do not have dock facilities or that have non-standard dock/passenger transfer facilities, or to unfamiliar aerodromes that have not been assessed.

- **Category 3** would apply to water aerodromes that present aircraft performance limitations or uniquely challenging geographic or environmental conditions such as unprotected take-off and landing areas or inclement weather.

Specific pilot experience, training and/or LIFUS requirements would typically be required before pilots are able to operate at airports other than the first category.

2   Training and Qualification

2.1   Training and Evaluation Program

General

FLT 2.1.1

The Operator shall have a training and evaluation program, approved or accepted by the Authority, that consists of ground and flight training and, when applicable, evaluations to ensure flight crew members are competent to perform assigned duties. The program shall address traditional and, if applicable, advanced (or alternative) training and qualification, and ensure training and evaluation is conducted for each type of aircraft in the fleet. Such program shall also, as a minimum, address:

(i)   Initial qualification;

(ii)   Continuing qualification;

(iii)   Re-qualification;

(iv)   As applicable, aircraft transition or conversion;

(v)   Upgrade to PIC;

(vi)   As applicable, other specialized training requirements, including those associated with operations authorized the AOC. **(GM)**

Auditor Actions

☐   **Identified/Assessed** flight crew training/qualification program (focus: program includes each type of aircraft in the fleet).

☐   **Interviewed** responsible manager(s) in flight operations.

☐   **Examined** training/qualification course curriculum for selected aircraft types (focus: inclusion of applicable training/qualification courses for each aircraft type).

☐   **Examined** training/qualification records of selected flight crew members (focus: completion of applicable training/qualification courses).

☐   **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure an operator's training program contains the elements necessary to ensure flight crew members are continuously competent to perform assigned duties.

The initial qualification process provided to newly hired crew members includes company indoctrination and initial endorsement on company aircraft types. This presupposes that the newly hired crew member already holds a commercial flying license.

Initial endorsement training may not be required as part of initial qualification if a newly hired crew member already holds a type endorsement acceptable to both the State and the operator. Company indoctrination training, however, is always considered a part of initial qualification.

Continuing qualification includes recurrent or refresher training and also includes any training necessary to meet recency-of-experience requirements.

Transition (conversion) training refers to an aircraft type qualification training and evaluation program for each type of aircraft in the fleet and is not required when an operator only utilizes one type of aircraft.

Specialized training could include training on a specific type of new equipment (e.g., ACAS) or training for specific operations to meet requirements of the Authority.

Training could be outsourced, in which case services typically range from simple dry lease of a training device to delegation of all training to an external organization (e.g., Authorized Flight Training School).

FLT 2.1.2–2.1.3   (Intentionally open)

FLT 2.1.4

If the Operator uses distance learning and/or distance evaluation in the flight crew training and qualification program, the Operator shall ensure such training and/or evaluation is monitored in accordance with FLT 2.1.28 and, if required, is approved or accepted by the State. **(GM)**

Auditor Actions

☐ **Identified/Assessed** fregulatory approval, process for monitoring/continual improvement of distance learning in flight crew training/evaluation program.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** selected distance learning/qualification course development records (focus: monitoring/continual improvement).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Distance Learning.

Distance learning refers to flight crew training or evaluation that is not conducted in a classroom or face-to-face with an instructor or evaluator, but rather is conducted through the use of distributed printed material or electronic media (e.g., Internet, compact disc, etc.).

FLT 2.1.5–2.1.9   (Intentionally open)

Training Manual

FLT 2.1.10

The Operator shall have a Training Manual for the use of flight operations personnel, which may be issued in separate parts, that contains the details of all relevant training programs, policies, procedures, requirements and other guidance or information necessary to administer the Operator's Training Program and the Training Manual shall, as a minimum, be managed and controlled as specified in ORG 2.5.1 and be in accordance with specifications contained in Table 2.2. **(GM)**

Auditor Actions

☐ **Identified/Assessed** flight crew training manual, regulatory approval, content in accordance with Table 2.2.

☐ **Interviewed** the responsible manager(s) in flight operations.

☐ **Examined** selected parts of training manual (focus: content includes policies/procedures/ requirements, other guidance/information necessary to administer the training/evaluation program).

☐ **Other Actions** (Specify)

Guidance

The training manual typically applies to instructors, evaluators, line–check airmen, flight crew members, training schedulers, simulator operations personnel, administrative support personnel and other applicable flight operations personnel.

The training manual may be split among several publications with the relevant parts made easily accessible to the appropriate personnel.

FLT 2.1.11–2.1.27   (Intentionally open)

FLT 2.1.28

The Operator shall have processes for ensuring continual improvement of the flight crew training and evaluation program, to include, as a minimum, the monitoring, recording and evaluation of results of successful and unsuccessful flight crew evaluations. **(GM)**

Auditor Actions

☐ **Identified/Assessed** processes for program monitoring, continual improvement of flight crew training/evaluation program.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** selected records of program monitoring (focus: improvements resulting from monitoring).

☐ **Other Actions** (Specify)

Guidance

Flight crew operational non-compliances, training deficiencies and evaluation trends (simulator, aircraft and line operations) are typically used by the training organization for trend analysis and program improvement.

Grading scale criteria (e.g. numerical, letter grade) provides a means to accurately identify areas for improvement.

2.2   Training Elements

FLT 2.2.1

The Operator shall ensure flight crew members complete training in maritime navigation regulations and knowledge as part of their initial ground training program. This training shall address topics applicable to the operating environment, including:

(i)   Right-of-way rules for seaplane operations on the water, in accordance with the International Regulations for Preventing Collisions at Sea;

(ii)   The purpose and identification of marine navigation aids such as buoys, beacons, lights, and sound signals;

(iii)   The use of nautical charts;

(iv)   The use of tide and current tables for operations in tidal environments, if applicable. **(GM)**

Auditor Actions

☐ **Identified/Assessed** the requirement for training in maritime navigation regulations and knowledge.

☐ **Interviewed** the responsible manager(s) in flight operations.

☐ **Examined** selected initial course curricula/syllabi pertaining to maritime navigation regulations and knowledge.

☐ **Examined** selected flight crew member training/qualification records (focus: maritime navigation regulations and knowledge).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure that the Operator's training program addresses areas of knowledge required by seaplane pilots which are unique to operating aircraft in maritime environments.

While operating on the water, seaplanes are considered vessels and are subject to the same international rules of maritime navigation as other watercraft. Seaplane pilots must be able to read nautical charts and safely navigate to and from take-off and landing areas while complying with marine traffic rules and markers.

When beaching or docking in tidal areas, tidal rise and fall must be considered to safely prevent the aircraft from striking submerged obstacles and shoals or allowing the aircraft to come to rest on the sea bottom. Tides and currents can have a significant impact on take-off and landing areas with regards to water conditions and the navigability of taxi channels, therefore an understanding of tide and current tables is an important skill for seaplane pilots operating in tidal areas.

Expanded guidance can be found in ICAO Annex 2 (3.2.6 Water Operations), in the FAA Seaplane, Skiplane, and Float/Ski Equipped Helicopter Operations Handbook: Chapter 1, in the FAA Aeronautical Information Manual (AIM): 7-6-8. Seaplane Safety.

FLT 2.2.2

The Operator shall ensure that flight crew members complete initial and recurrent training and evaluation in seaplane handling skills. This training shall minimum include demonstration of competence in:

(i) Docking, beaching and mooring techniques;

(ii) Taxiing skills, including displacement, plow and step taxi techniques;

(iii) Sailing techniques:

(iv) Water handling techniques for adverse conditions such as taxiing and docking in high winds and rough seas. **(GM)**

Auditor Actions

☐ **Identified/Assessed** the requirement for training/evaluation of seaplane water handling techniques in flight crew training/evaluation program.

☐ **Interviewed** the responsible manager(s) in flight operations.

☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi pertaining to water handling techniques.

☐ **Examined** selected flight crew member training/qualification records (focus: completion of training/evaluation of water handling techniques).

☐ **Other Actions** (Specify)

Guidance

Handling a seaplane on the water requires different skills and experience than those associated with operating landplanes in an airport environment. Marine environments are dynamic and seaplane pilots must contend with wind, waves, obstacles, and other vessels while operating on the water. Because of the variability of conditions that these environments pose, what can be a simple procedure one day can be very challenging the next.

The intent of this provision is to ensure that seaplane operator training programs contain the necessary elements to impart and evaluate these essential skills to their pilots, and to check that they maintain competence through recency and recurrent training.

Expanded guidance can be found in the TCCA Instructor Guide, Seaplane Rating and in the FAA Seaplane, Skiplane, and Float/Ski Equipped Helicopter Operations Handbook: Chapter 4.

FLT 2.2.3

The Operator shall ensure flight crew members complete initial and subsequently annual recurrent flight training and evaluation related to seaplane flying which includes, at minimum, the following skill sets:

   (i)   Rough water and glassy water take-off and landing techniques;
   (ii)   Crosswind take-off and landing techniques;
   (iii) Wind, water and landing area evaluation and decision making skills. **(GM)**

Auditor Actions

☐ **Identified/Assessed** the requirement for flight training/evaluation of seaplane take-off and landing techniques and skills in flight crew training/evaluation program.

☐ **Interviewed** the responsible manager(s) in flight operations.

☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi pertaining to seaplane flying techniques and skills.

☐ **Examined** selected flight crew member training/qualification records (focus: completion of training/evaluation of seaplane flying techniques and skills).

☐ **Other Actions** (Specify)

Guidance

Because no two bodies of water are alike and the same body of water can change dramatically from day to day based on environmental conditions, a seaplane pilot must develop, through training and experience, skills which contribute to safe decision-making and execution of take-offs and landing conducted on the water. The pilot's ability to assess take-off and landing conditions, to make decisions based on those assessments, and to utilize take-off and landing techniques appropriate to the conditions is paramount to mitigating the risks posed by the variable conditions encountered during seaplane operations.

Studies have shown that nearly 70% of seaplane accidents occur during the take-off and approach and landing phases of flight and that the severity and incidence of these accidents are reduced in correlation to pilot experience and training.

Expanded guidance can be found in the TCCA Instructor Guide, Seaplane Rating (TP 12668) and the FAA Seaplane, Skiplane, and Float/Ski Equipped Helicopter Operations Handbook: Chapters 4 and 6. Refer to Aviation Safety Study SSA9301 for more information pertaining to seaplane accidents, the contributing factors, and the mitigating effects of pilot skills and training.

FLT 2.2.4

The Operator *should* ensure that all seaplane pilots receive initial and recurrent underwater egress training.

Auditor Actions

☐ **Identified/Assessed** the requirement for completion of an underwater egress training course by seaplane pilots on and initial and recurrent basis.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent underwater egress training course).

☐ **Other Actions** (Specify)

Guidance

Investigations of seaplane accidents indicate that pilots and passengers involved in crashes on water often survived the impact but were unable to evacuate the aircraft and subsequently drowned. Data gathered by the TSB in Canada indicate that over the last 20 years approximately 70% of fatalities resulting from seaplane crashes in water were attributed to drowning.

Regulators in countries with established legacies of seaplane operations are moving towards mandatory egress training for flight crews. In Canada, beginning in March 2022, initial training and then recurrent training every three years will be mandatory. This training greatly increases pilots' chances of successfully egressing from an inverted seaplane after an accident on the water, and thereby increases their ability to help passengers.

For Expanded guidance refer to SOR/2019-49: Regulations Amending the Canadian Aviation Regulations (Parts I, VI and VII — Seaplane Operations) and for the coming changes to the TCCA Canadian Aviation Regulations, sections 703.98 and 704.115.

Although other regulatory authorities have not mandated a requirement for this training, accident investigations and safety studies have shown that underwater egress training contributes significantly to the safety of seaplane operations in general and should be more broadly applied. Refer to TSB Safety Recommendation A13-02.

FLT 2.2.5–2.2.11   (Intentionally open)

FLT 2.2.12

If the Operator transports dangerous goods as cargo, the Operator shall ensure flight crew members complete training and an evaluation in dangerous goods during initial ground training and subsequently once during recurrent training within the 24-month period from the previous training in dangerous goods.

Auditor Actions

☐ **Identified/Assessed** requirement for training/evaluation in dangerous goods in flight crew training/evaluation program.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: dangerous goods training/evaluation; definition of specific aspects/subjects addressed).

☐ **Examined** selected flight crew member training/qualification records (focus: completion of training/evaluation in dangerous goods in initial/recurrent training).

☐ **Other Actions** (Specify)

Guidance

Training and evaluation is applicable to all flight crew members.

Recurrent training in dangerous goods is typically completed within a validity period that expires 24 months from the previous training to ensure knowledge is current, unless a shorter period is defined by a competent authority. However, when such recurrent training is completed within the final 3 months of the 24-month validity period, the new validity period may extend from the month on which the recurrent training was completed until 24 months from the expiry month of the current validity period. If such recurrent training is completed *prior* to the final three months (or 90 days) of the validity period, the new validity period would extend 24 months from the month the recurrent training was completed.

The curriculum for dangerous goods training for flight crew members will typically address the following subject areas:

- General philosophy;
- Limitations;
- List of dangerous goods;
- Labeling and marking;
- Recognition of undeclared dangerous goods;

- Storage and loading procedures;
- Pilot's notification;
- Provisions for passengers and crew;
- Emergency procedures.

Guidance may be found in the IATA Dangerous Goods Regulations (DGR) 1.5, Table 1.5.A.

FLT 2.2.13

If the Operator does not transport dangerous goods as cargo, the Operator shall ensure flight crew members complete training and an evaluation in dangerous goods during initial ground training and subsequently once during recurrent training within the 24-month period from the previous training in dangerous goods.

Auditor Actions

☐ **Identified/Assessed** requirement for training/evaluation in dangerous goods in flight crew training/evaluation program.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: dangerous goods training/evaluation; definition of aspects/subjects addressed).

☐ **Examined** selected flight crew member training/qualification records (focus: completion of training/evaluation in dangerous goods in initial/recurrent training).

☐ **Other Actions** (Specify)

Guidance

Training and evaluation is applicable to all flight crew members.

Recurrent training in dangerous goods is typically completed within a validity period that expires 24 months from the previous training to ensure knowledge is current, unless a shorter period is defined by a competent authority. However, when such recurrent training is completed within the final 3 months of the 24-month validity period, the new validity period may extend from the month on which the recurrent training was completed until 24 months from the expiry month of the current validity period. If such recurrent training is completed *prior* to the final three months (or 90 days) of the validity period, the new validity period would extend 24 months from the month the recurrent training was completed.

The curriculum for dangerous goods training for flight crew members is commensurate with responsibilities and will typically address:

- General philosophy;
- Limitations;
- Labeling and marking;
- Recognition of undeclared dangerous goods;
- Provisions for passengers and crew;
- Emergency procedures.

Guidance may be found in DGR 1.5, Table 1.5.B.

FLT 2.2.14–2.2.15   (Intentionally open)

FLT 2.2.16

The Operator shall ensure flight crew members complete training and an evaluation in subjects associated with adverse weather and/or environmental conditions during initial ground training and subsequently during recurrent training once every three (3) calendar years.

   (i)   De-/anti-icing policies and procedures, if applicable to the operating environment;

   (ii)   Thunderstorm avoidance;

   (iii) Meteorological systems associated with marginal VFR and IFR conditions;

   (iv) The use of weather forecasting and reporting resources;

(v)   VFR weather minimums;

(vi) VFR weather decision making. **(GM)**

Note: Item i) is applicable if the Operator conducts flights from any airport when conditions are conducive to ground aircraft icing.

Auditor Actions

☐   **Identified/Assessed** requirement for training/evaluation in adverse weather/environmental conditions in flight crew training/evaluation program.

☐   **Interviewed** responsible manager(s) in flight operations.

☐   **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training/evaluation in adverse weather/environmental conditions; definition of aspects/subjects addressed).

☐   **Examined** selected flight crew member training/qualification records (focus: completion of training/evaluation in adverse weather/environmental conditions in initial/recurrent training).

☐   **Other Actions** (Specify)

Guidance

Training and evaluation is applicable to all flight crew members.

The intent of this provision is to ensure flight crew members receive recurrent training and an evaluation in the subjects associated with the adverse weather or environmental conditions they may encounter in operations.

FLT 2.2.17–2.2.25   (Intentionally open)

FLT 2.2.26

The Operator shall ensure flight crew members complete training in normal and non-normal procedures and maneuvers during initial training and subsequently during recurrent training once every 12 months.

(i)   Pilot Monitoring (PM), Pilot Flying (PF) and other flight crew division of duties (task sharing), if applicable;

(ii)   If applicable, positive transfer of aircraft control;

(iii) Consistent checklist philosophy;

(iv)   Emphasis on a prioritization of tasks (e.g. "aviate, navigate, communicate");

(v)   Proper use of all levels of flight automation. **(GM)**

Auditor Actions

☐   **Identified/Assessed** requirement for training in normal/non-normal procedures/maneuvers in flight crew training/evaluation program.

☐   **Interviewed** responsible manager(s) in flight operations.

☐   **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training in normal/non-normal procedures/maneuvers; definition of specific elements/subjects addressed).

☐   **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent training in the specified normal/non-normal procedures/maneuvers).

☐   **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Pilot Flying (PF) and Pilot Monitoring (PM).

Training is applicable to all flight crew members.

The intent of this provision is to set a training interval for normal and non-normal procedures, and additionally to ensure the training manual, curricula, lesson plans, or other guidance associated with such training addresses the specifications in items (i) through (v).

Division of flight crew duties, transfer of aircraft control, checklist use and prioritization of tasks are in accordance with the operator's policy for task sharing and as specified in FLT 3.11.18.

Elements of training may be accomplished as part of ground, simulator, aircraft or line training.

The term *Pilot Monitoring (PM)* has the same meaning as the term *Pilot Not Flying (PNF)* for the purpose of applying the specifications of this provision to two-pilot operations.

The specification in item iv) refers to the following prioritization of tasks during any normal or abnormal situation or maneuver:

- Aviate: fly the aircraft in accordance with restrictions and limitations set forth in the OM;
- Navigate: guide the aircraft along the intended or appropriate route;
- Communicate: verbalize intentions to other crew members and ATC, as applicable.

The term "abnormal" is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

The terms "normal" and "non-normal/emergency" typically refer to AOM checklists, procedures and/or maneuvers. The term "non-normal" includes AOM emergency checklists and/or procedures (i.e. an emergency procedure is a subset of non-normal).

The terms can also be used to describe an event, situation or operation that would be addressed by normal or non-normal/emergency procedures or checklists. When used in this manner, the terms may be separated by forward slash marks (e.g. normal/non-normal/emergency).

The term "emergency" used alone refers to declarations and non-AOM procedures.

FLT 2.2.27

The Operator shall ensure flight crew members complete training and, when applicable, an evaluation, that includes a demonstration of competence in normal and non-normal procedures and maneuvers, to include, as a minimum, rejected takeoff, emergency evacuation, engine failure. Such training and, when applicable, evaluation shall be accomplished during initial training and subsequently during recurrent training once every 12 months. **(GM)**

Auditor Actions

☐ **Identified/Assessed** requirement for training/evaluation including a demonstration of competence in normal/non-normal procedures/maneuvers in flight crew training/evaluation program.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training/evaluation in specified normal/non-normal procedures/maneuvers).

☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent training/evaluation in the specified normal/non-normal procedures/maneuvers).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to define the basic initial and subsequent recurrent training and evaluation cycles that ensure flight crew members are competent to perform normal and non-normal procedures and maneuvers. It is understood that competence in all potential normal and non-normal procedures may not be demonstrated annually but in accordance with a schedule that is acceptable to the Authority.

Training and, when applicable, a demonstration of competence in specified normal and non-normal procedures and maneuvers is applicable to all *pilot* crew members.

Training and, when applicable, evaluation is to be accomplished as part of ground, simulator/aircraft and line training.

Line training is in normal procedures/maneuvers only.

Such evaluation of competence in the normal and non-normal procedures and maneuvers specified is applicable when such procedures and/or maneuvers are stipulated by the operator and/or State in conjunction with State-approved or State-accepted training courses that require a method of evaluation. Such courses typically include:

- Type qualification;
- Transition (conversion);
- Upgrade to PIC;
- Re-qualification;
- Recurrent training.

Operators that conduct training flights and cannot safely train/evaluate a non-normal procedure or maneuver in an aircraft or in a representative flight training device may demonstrate an alternative means of conformance.

FLT 2.2.28–2.2.29   (Intentionally open)

FLT 2.2.30

The Operator shall ensure flight crew members complete training in CRM skills, which may be accomplished as part of simulator, aircraft and/or line training, as applicable. Such training shall be completed during initial training and subsequently during recurrent training once every 12 months. **(GM)**

Auditor Actions

☐ **Identified/Assessed** requirements for training in CRM skills in flight crew training/evaluation program.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: inclusion of CRM training in simulator/aircraft or during line flight training).

☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent CRM training).

☐ **Other Actions** (Specify)

Guidance

Training is applicable to all flight crew members.

This specification is intended to ensure CRM skills are emphasized during and integrated into simulator or aircraft training, as applicable, and line training.

FLT 2.2.31

If the Operator utilizes single-pilot aircraft, the Operator shall ensure any flight crew members acting as single-pilot complete training in Single-Pilot Resource Management (SRM) skills, which may be accomplished as part of ground, simulator, aircraft and/or line training, as applicable. Such training shall be completed during initial training and subsequently during recurrent training once every 12 months. **(GM)**

Auditor Actions

☐ **Identified/Assessed** requirements for training in SRM skills in flight crew training/evaluation Program.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: inclusion of SRM training in ground, simulator/aircraft or during line flight training).

☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent SRM training).

☐ **Other Actions** (Specify)

Guidance

Training is applicable to flight crew members that are operating seaplanes single-pilot.

The intent of this provision is to ensure that Single-Pilot Resource Management (SRM) concepts and skills are integrated into either the Operator's ground or flight training program(s) for single-pilot crew.

SRM is a safety philosophy that uses the concepts of CRM to develop a set of skills and principles adapted to single-pilot operations. SRM is defined as the practice of managing all the resources available in a single-pilot cockpit to ensure safety of flight. These resources and skills include hazard recognition, risk management, decision-making skills, as well as Controlled Flight Into Terrain (CFIT) avoidance, and situational awareness.

Expanded guidance can be found in Chapter 6 of the FAA Risk Management Handbook.

FLT 2.2.32–2.2.34   (Intentionally open)

FLT 2.2.35

The Operator shall ensure that all flight crew members receive initial and annual CFIT awareness ground training. The training content shall focus on CFIT risks and avoidance strategies related to VFR operations and shall include, at minimum, the following content:

    (i)   VFR weather minimums;

    (ii)   Minimum altitudes for the operator's route structure;

    (iii) The use of weather forecasting and reporting resources;

    (iv)   Pilot Decision Making (PDM) skills and strategies;

    (v)   GPS training, if applicable;

    (vi)   The risks associated with VFR flight in marginal VMC or into IMC conditions;

    (vii) Causes and case studies of VFR CFIT accidents;

    (viii) The risks associated with low altitude flight, including terrain, obstacles, blind canyons, stalls, and aircraft performance limitations;

    (ix)   CFIT avoidance and recovery techniques. **(GM)**

Auditor Actions

☐ **Identified/Assessed** requirement for CFIT training in flight crew training program.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** selected initial/recurrent training course and curricula/syllabi (focus: suitability of CFIT training to VFR seaplane operations).

☐ **Examined** selected flight crew member training records (focus: completion of initial/recurrent training in CFIT awareness and avoidance.)

☐ **Other Actions** (Specify)

Guidance

CFIT accidents present a disproportionate risk to seaplane operators due to the nature of VFR flight operations and the low-altitude flight regimes typically associated with seaplane operating conditions. Additionally, many state regulators do not require all seaplanes to be equipped with GPWS systems.

The intent of this provision is to mitigate the elevated level of CFIT risk that operators are exposed to by requiring regular, comprehensive, and suitable CFIT awareness training for seaplane crews that is customized to the operating environment, and that focuses on VFR CFIT risks and avoidance strategies.

Expanded guidance can be found in AC 61-134: General Aviation Controlled Flight Into Terrain Awareness.

Additionally, Aviation Investigation Report A08P0353 provides a case study of the CFIT risks VFR seaplane operators are exposed to, as well as recommended pilot training related to weather, Pilot Decision Making (PDM), and GPS use.

2.3   Line Qualification

FLT 2.3.1

The Operator shall have a line qualification program consisting of line training and, where applicable, evaluations, approved or accepted by the State, which ensures flight crew members are qualified to operate in areas, on routes or route segments and into the airports or water aerodromes to be used in operations for the Operator. Such program shall:

   (i)   Be published in the Training Manual or equivalent documents;

   (ii)   Ensure each pilot flight crew member has adequate knowledge of the elements specified in Table 2.5, as applicable to the areas, routes and route segments of intended operation;

   (iii) Specify qualification requirements for operations in all areas, on all routes or route segments, and into all airports or water aerodromes and landing areas of intended use;

   (iv)   Ensure line training and evaluation for each pilot crew member is completed during initial qualification;

   (v)   Ensure line training and evaluation is completed prior to a pilot crew member being used as a PIC in operations; **(GM)**

   (vi)   A Line Flying Under Supervision (LIFUS) or line qualification program shall set minimum standards for the required block time, sectors, and take-offs and landings on floats for seaplane PICs new to aircraft type or new to the operating environment. **(GM)**

Auditor Actions

☐   **Identified/Assessed** flight crew line qualification training/evaluation program, approved/ accepted by the State, specifies qualification requirements for operations associated with areas/routes/route segments/airports/water aerodromes used in operations.

☐   **Interviewed** responsible manager(s) in flight operations.

☐   **Examined** flight crew line qualification initial/recurrent curricula/syllabi (focus: line training/evaluation in areas/airports/water aerodromes of operations; program elements consistent with specifications in Table 2.5).

☐   **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent line qualification training/evaluation).

☐   **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure flight crew members are qualified to conduct routine operations within each theater of operation as defined by the operator. It does not address the additional and specialized knowledge.

This specification in item v) and vi) applies to all candidates for the position of PIC, to include SIC upgrade candidates and pilots hired directly into PIC positions in operations for the operator.

The training and evaluation specified in this provision is accomplished by pilot flight crew members as part of; ground training, simulator/aircraft training or line training.

FLT 2.3.2–2.3.4   (Intentionally open)

FLT 2.3.5

The Operator *should* have a line check program to be conducted upon completion of initial flight training and LIFUS and then on a recurrent basis every 12 months thereafter, or as required by the state regulator, with specific emphasis on seaplane flying skills and pilot decision making. **(GM)**

Auditor Actions

☐ **Identified/Assessed** requirement for flight crew line checks.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** flight crew line qualification initial/recurrent curricula/syllabi (focus: seaplane elements of line check program).

☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent line check evaluation).

☐ **Other Actions** (Specify)

Guidance

Initial and recurrent line checks for seaplane operators are not a requirement of all state regulators. However, the intent of this provision is to ensure that operators are regularly evaluating the flying and decision-making skills specific to seaplane flying which pilots must demonstrate during line operations.

Some examples of these skills include:

- Weather assessment;
- Preflight inspection;
- Docking;
- Taxiing;
- Inspection and judgement of take-off and landing areas;
- Assessment of wind and water conditions for take-off and landing;
- VFR en-route procedures and navigation;
- Take-off and landing in variable wind and water conditions.

FLT 2.3.6

If the Operator utilizes both seaplanes and landplanes in their fleet, the Operator shall set pilot recency requirements that ensure pilots have completed, within the preceding 90 days, at least three take-offs and landings on each undercarriage type before carrying passengers. For pilots flying both amphibians and aircraft equipped with straight floats, the recency requirement shall be maintained on, at minimum, the amphibious aircraft. **(GM)**

Auditor Actions

☐ **Identified/Assessed** recency requirements for pilots on each type of undercarriage flown.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** selected flight crew member training/qualification records (focus: completion of recency for take-offs and landings on each type of undercarriage and type flown).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure that pilots who are flying aircraft with different landing gear configurations maintain recency on floats. Additionally, due to the risk associated with gear down landings on water or gear up landings on land, pilots of amphibians who also fly seaplanes without retractable landing gear should complete the recency requirement on the amphibian, that being the most complex undercarriage type.

Although most state regulators have recency requirements for take-offs and landings, these requirements generally only apply to the aircraft type flown, not the landing gear configuration. Studies have shown that nearly 70% of seaplane accidents occur within the take-off and landing stages of flight, and that pilot seaplane experience markedly reduces the incidence of those accidents. Take-off and landing recency requirements conducted on wheels do not adequately account for the unique skills required to operate a seaplane during those critical phases of flight.

For expanded guidance refer to Aviation Safety Study SSA9301: A Safety Study Of piloting Skills, Abilities, And Knowledge In Seaplane Operations.

3   Line Operations

3.1   (Intentionally open)

3.2   (Intentionally open)

3.3   Flight Crew Qualifications

FLT 3.3.1

The Operator *should* have a policy that sets minimums for seaplane experience requirements which ensure flight crew are hired, trained, and upgraded according to the following standards:

    (i)   PIC of single-engine aircraft with MTOW less than 5,000 pounds (2,270 kg): 100 hours float experience;

    (ii) PIC of single-engine aircraft with MTOW of greater than or equal to 5,000 pounds (2,270 kg): 800 TT and 400 on floats;

    (iii) PIC of single-engine aircraft authorized to carry more than nine passengers: 2000 TT, 500 PIC on floats;

    (iv) PIC of multi-engine aircraft with MTOW of 12,500 pounds (5,670 kg) or more: 3000 TT, 250 PIC, 200 on type, 750 on floats. **(GM)**

Auditor Actions

☐ **Identified/Assessed** policy for seaplane experience requirements in Operations Manual (OM) or other applicable document.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** selected flight crew member training/qualification records (focus: seaplane flight experience).

☐ **Other Actions** (Specify)

Guidance

The safety of seaplane operations is greatly enhanced by ensuring that pilots have accumulated seaplane flight experience. The skills, knowledge, and decision making inherent to operating seaplanes are unique and cannot be developed flying landplanes in typical runway to runway operations.

A significant percentage of seaplane accidents are attributable to pilot error or contributing factors associated with pilot skill level, abilities, and knowledge. Studies have shown that the incidence of seaplane accidents decrease with an increase in pilot seaplane experience by mitigating causal factors such as selecting unsuitable take-off and landing areas, incorrectly assessing water and wind conditions, and loss of control during take-off and landing due to inadequate skills.

Refer to Aviation Safety Study SSA9301: A Safety Study Of Piloting Skills, Abilities, And Knowledge In Seaplane Operations.

FLT 3.3.2–3.3.3   (Intentionally open)

FLT 3.3.4

The Operator shall ensure flight crew members will not operate an aircraft unless issued a medical assessment in accordance with requirements of the State; such assessment shall not be valid for a period greater than 12 calendar months. **(GM)**

Note: *If authorized by the State, it is permissible to extend the validity beyond 12 months (to preserve the original expiry date) when the medical assessment is renewed up to 45 days prior to its expiry date.*

Auditor Actions

☐ **Identified/Assessed** requirement for flight crew members to have valid medical assessment in accordance with requirements of the State, maximum 12 months validity.

☐ **Identified/Assessed** tracking/scheduling processes that prevent flight crew members from assignment to flight duty without valid medical assessment.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** selected flight crew training/qualification records (focus: existence of valid medical assessment).

☐ **Other Actions** (Specify)

Guidance

Requirements of the State and/or an applicable authority that are associated with medical classifications, aircraft types, flight crew positions and/or licensing could require a more restrictive assessment interval than specified in this provision. An applicable authority is one that has jurisdiction over international operations conducted by an operator over the high seas or the territory of a state that is other than the State of the Operator.

3.4   Flight Crew Scheduling

FLT 3.4.1

The Operator shall have a means to ensure flight crew members are qualified and current prior to accepting and/or being assigned to duty. Such means shall consist of:

(i) A requirement that prohibits flight crew members from operating an aircraft if not qualified for duty in accordance with requirements contained in Table 2.3.

(ii) A scheduling process that ensures flight crew members, prior to being assigned to duty, are qualified and current in accordance with the applicable flight crew qualification requirements contained in Table 2.3 and, if applicable, additional requirements of the State. **(GM)**

Auditor Actions

☐ **Identified/Assessed** tracking/scheduling processes that prevent flight crew members from flight duty assignment unless currently qualified in accordance with Table 2.3 or other applicable requirements of the State.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** process for determining additional flight crew qualification requirements of the State.

☐ **Examined** selected flight crew duty assignment records (focus: satisfaction of applicable qualification requirements).

☐ **Observed** flight crew scheduling operations (focus: scheduling requires flight crew member qualification in accordance with Table 2.3 and requirements of State).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure flight crew member requirements and related scheduling processes preclude operation of an aircraft by a flight crew member that is not qualified and current in accordance with the specifications of the provision.

FLT 3.4.2   (Intentionally open)

FLT 3.4.3

The Operator shall have a methodology for the purpose of managing fatigue-related safety risks to ensure fatigue occurring in one flight, successive flights or accumulated over a period of time does not impair a flight crew member's alertness and ability to safely operate an aircraft or perform safety-related duties. Such methodology shall consist of flight time, flight duty period, duty period and rest period limitations that are in accordance with the applicable prescriptive fatigue management regulations of the State.

Auditor Actions

☐ **Identified/Assessed** requirements/methodology for flight crew fatigue management.

☐ **Identified/Assessed** tracking/scheduling processes (focus: processes take into account flight time/flight duty period/duty period/rest period limitations in the duty assignment of flight crew members).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Interviewed** selected scheduling personnel.

☐ **Examined** selected flight crew duty assignment records (focus: examples of application of flight crew fatigue management limitations/mitigations).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure an operator establishes a methodology for the management of crew member fatigue in a manner that:

- Is based upon scientific principles and knowledge;
- Is consistent with the prescriptive fatigue management;
- Precludes fatigue from endangering safety of the flight.

3.5–3.8   (Intentionally open)

3.9   Ground Handling

☐

FLT 3.9.1

If the Operator conducts passenger flights with or without cabin crew, the Operator shall have a procedure to ensure verification that:

(i)   Passenger and crew baggage in the passenger cabin is securely stowed;

(ii)   If applicable, cargo packages and/or passenger items being transported in passenger seats are properly secured. **(GM)**

Auditor Actions

☐ **Identified/Assessed** procedure for flight crew or cabin crew to verify cabin security (focus: baggage and cargo packages/passenger items are stowed or properly secured).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Interviewed** flight crew and cabin crew if applicable.

☐ **Other Actions** (Specify).

Guidance

The intent of this provision is for an operator to have a procedure for verification by the flight crew or cabin crew that all baggage and, if applicable, cargo packages and/or passenger items being transported in passenger seats are stowed or properly secured.

Some operators might transport smaller cargo packages (e.g. mail, COMAT items) secured in cabin passenger seats.

Some operators might transport certain passenger items secured in cabin passenger seats. These types of items are typically large, valuable or fragile articles belonging to passengers that are not conducive to transport as checked baggage or appropriate for stowage in overhead bins/lockers (e.g. large musical instruments, certain electronic equipment, prominent trophies, works of art). Such items might thus be secured and carried in a dedicated cabin passenger seat (which might be purchased by the passenger-owner for the purpose of transporting the item).

⚠ **FLT 3.9.2–3.9.5** (Intentionally open)

FLT 3.9.6

If the Operator conducts flights from any airport when conditions are conducive to ground aircraft icing, the Operator shall have de-/anti-Icing policies and procedures published in the OM or in other documents that are available to the flight crew during flight preparation and accessible to the flight crew during flight. Such policies and procedures shall address any flight crew duties and responsibilities related to de-/anti-Icing and include:

  (i) Holdover Time tables;

  (ii) A requirement for a member of the flight crew or qualified ground personnel to perform a visual check of the wings before takeoff, if any contamination is suspected;

  (iii) A requirement that takeoff will not commence unless the critical surfaces are clear of any deposits that might adversely affect the performance and/or controllability of the aircraft;

  (iv) A statement that delegates authority to the PIC to order De-/Anti-icing whenever deemed necessary. **(GM)**

Note: The specifications of this provision are applicable to commercial and/or non-commercial operations.

Auditor Actions

☐ **Identified/Assessed** OM policy/procedures for aircraft de-/anti-icing of aircraft (focus: availability/accessibility to flight crew prior to/during flight; description of flight crew authority/duties/responsibilities; statement that requires critical surfaces to be clear of ice prior to takeoff).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of De-/Anti-icing Program and Holdover Time.

The intent of this provision is to ensure flight crew members adhere to the clean aircraft concept prior to takeoff anytime there is a potential for the accretion of ice on aircraft critical surfaces during ground operations.

Refer to Guidance associated with GRH 4.2.1 located in ISM Section 6 for specifications and associated guidance related to the establishment and maintenance of a De-/Anti-icing Program.

Qualified ground personnel specified in item (ii) are typically used to perform a visual wing check in instances when the wings are not visible to the flight crew from the interior of the aircraft (e.g., cargo aircraft operations).

The surfaces specified in item (iii) include: wings, flight controls, engine inlets, fuselage surfaces in front of engines or other areas defined in the AOM.

3.10   (Intentionally open)

3.11   In-flight Operations

FLT 3.11.1

The Operator shall have established procedures which address the following phases of seaplane operations:

(i)   Pre-flight inspection and pumping of aircraft floats;

(ii)   Dock safety during engine start and systems checks;

(iii)   Docking procedure: departing from and arriving to fixed and floating platforms, mooring buoys, and beaching, as applicable to the scope of the theater of operations;

(iv)   Taxi and water handling procedures;

(v)   Glassy water take-off and landing;

(vi)   Landing area inspection;

(vii)   Weather minimums;

(viii) Minimum VFR altitudes;

(ix)   Passenger briefing requirements, including instructions describing the use of life jackets;

(x)   Safety of passengers during embarkation, disembarkation from docks, watercraft or beaches;

(xi)   If the theater of operations includes ocean or saltwater environments, awareness of best practices for corrosion mitigation and inspection. **(GM)**

Auditor Actions

☐   **Identified/Assessed** OM procedures that address seaplane operations (focus: inclusion of specifications listed in this standard addressing phases of seaplane operation).

☐   **Interviewed** responsible manager(s) in flight operations.

☐   **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure that the OM or other relevant documentation prescribes comprehensive procedures for pilots conducting seaplane operations.

Standardization of operational procedures ensures that elements of aircraft handling and decision making unique to seaplane operations will be conducted in a safe and uniform manner by all pilots, thereby facilitating safe operation of aircraft at the dock, on the water, and during all phases of flight.

FLT 3.11.2

The Operator shall publish, in its OM or other policy material, procedures to ensure that all seaplane passengers receive a safety briefing with specific instruction related to emergency egress and the use of life jackets and exits. The briefing shall include, at minimum:

(i)   Proper use of seatbelts and shoulder harnesses, including ensuring that the lap belt buckle is facing up, and how to undo it;

(ii)   Location of all exits and how to open them;

(iii)   Location of all life jackets, how to don them, how to inflate them, and how to use other features such as whistles or strobes;

(iv)   Emphasis on the necessity of exiting the aircraft before inflating life jackets. **(GM)**

Auditor Actions

☐ **Identified/Assessed** OM policy/procedures for safety briefings (focus: instructions related to emergency egress from seaplanes).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure that the Operator has a defined process to establish and maintain the standards and content of passenger safety briefings and the relevance thereof to the risks associated with seaplane accidents on the water.

Regulators, such as TCCA and the FAA, in response to seaplane accident investigations and safety recommendations, have placed increased emphasis on the importance of seaplane egress safety briefings. This emphasis works in tandem with recommendations for passengers to wear floatation devices while onboard seaplanes, as well as egress training for pilots and airframe modifications to seaplanes to facilitate emergency egress.

Refer to FLT 2.2.4, MNT 2.6.1 and MNT 2.6.2 for information pertaining to underwater egress and guidance related to egress training, and emergency exits.

Expanded guidance can be found in AC 91-69A: Seaplane Safety for 14 CFR Part 91 Operators and in Aviation Safety Study 9401.

FLT 3.11.3–3.11.17   (Intentionally open)

FLT 3.11.18

If the Operator conducts two pilot operations, the Operator shall have a task sharing policy and guidance that defines and addresses the division of duties related to the performance and prioritization of flight crew member operational tasks, to include, as a minimum:

(i)   A requirement and procedures for the use of checklists prior to, during and after all phases of flight, and in abnormal and emergency situations;

(ii)   PM/PF duties for all phases of flight, to include normal, abnormal and emergency situations;

(iii)   PM/PF actions during manual and automatic flight;

(iv)   Flight and cabin crew duties during situations that require coordination, to include, as a minimum, emergency evacuation, medical emergency and incapacitated flight crew member. **(GM)**

Auditor Actions

☐ **Identified/Assessed** OM policy/requirement/guidance for sharing/prioritization in performance of flight crew operational tasks (focus: guidance that addresses use of checklists; defines PF/PM duties/task sharing; defines flight/cabin crew duties/task sharing).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Other Action** (Specify)

Guidance

The intent of this provision is to ensure flight crew duties are defined and appropriately divided, and that compliance with all applicable checklists contained in the AOM, MEL and CDL occurs in accordance with the operator's task sharing policy.

Elements of task sharing are described in the following table.

Task sharing is observed during most phases of flight and addresses areas such as:
- Philosophy for the use of checklists;
- Performance calculations;
- Automated flight procedures for flight crew;
- Manual flight procedures for flight crew;
- Flight crew briefings;

- Administrative duties at the appropriate times (such as top of descent and prior to commencing approach).

Task sharing is applicable during emergency situations such as:

- Rejected takeoff;
- Engine failure or fire at V1;
- TCAS/ACAS resolution advisory (RA) if applicable;
- GPWS Alert if applicable;
- Emergency descent.

Task sharing is applicable during emergency situations that require coordination with the cabin crew such as:

- Emergency evacuation;
- Medical emergency;
- Flight crew member incapacitation.

The term Pilot Monitoring (PM) has the same meaning as the term Pilot Not Flying (PNF) for the purpose of applying the specifications of this provision.

The term "abnormal" is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

The terms "normal" and "non-normal/emergency" typically refer to AOM checklists, procedures and/or maneuvers. The term "non-normal" includes AOM emergency checklists and/or procedures (i.e. an emergency procedure is a subset of non-normal).

The terms can also be used to describe an event, situation or operation that would be addressed by normal or non-normal/emergency procedures or checklists. When used in this manner, the terms may be separated by forward slash marks (e.g. normal/non-normal/emergency).

The term "emergency" used alone refers to declarations and non-AOM procedures.

FLT 3.11.19–3.11.56   (Intentionally open)

FLT 3.11.57

The Operator *should* establish a risk assessment process to determine altitude and VFR weather minimums for its route structure and destinations. These minimums shall meet or exceed any regulatory minimums and shall take into consideration:

(i)   Prevailing weather conditions for routes and destinations;

(ii)   Terrain and geography en route and at destinations;

(iii) Pilot skill, experience, and training;

(iv) a policy on the use of Special VFR clearances. **(GM)**

Auditor Actions

☐ **Identified/Examined** OM policy/procedures/route manual or other relevant documentation (focus: VFR weather and altitude minimums).

☐ **Identified/Examined** risk assessment process for routes and destination water aerodromes (focus: determination of safe weather minimums and altitudes).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Other Action** (Specify)

Guidance

The intent of this provision is to ensure that the Operator sets safe standards for weather and minimum en route altitudes with due consideration to the operating environment–including geography, terrain, and prevailing weather conditions–when determining the risks associated with routes and destination aerodromes.

VFR flight in marginal VMC or in IMC conditions continues to be a contributing factor to seaplane CFIT accidents. Normally, having an explicit policy defining safe VFR weather minimums facilitates

safe pilot decision making as well as ensuring that operational control personnel and management are accountable in the flight dispatch decision making process. These factors combined contribute to a company safety culture.

Expanded guidance can be found in ICAO Annex 6 P1: 4.2.7 and 4.3.5.1.

Refer to Aviation Investigation Report A08P0353 for a case study including route risk assessment recommendations.

FLT 3.11.58

The Operator shall have a stabilized approach policy with associated guidance, criteria, and procedures to ensure the conduct of stabilized approaches. Such policy shall specify:

(i) A minimum height for stabilization not less than 200 feet AGL for approaches in VMC;

(ii) Aircraft configuration requirements specific to each aircraft type (such as flap and propellor settings; landing gear for amphibious aircraft);

(iii) Speed limitations;

(iv) Vertical speed limitations;

(v) Power setting is appropriate to aircraft configuration;

(vi) Aircraft is aligned with landing area and only minor corrections required to maintain normal approach path. **(GM)**

Auditor Actions

☐ **Identified/Assessed** OM policy/guidance/procedures for the conduct of a stabilized approach (focus: flight crew procedures/definition of criteria for stabilized approach).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is for the operator to implement a stabilized approach policy, as well as have guidance, criteria, and procedures that ensure the maintenance of the intended lateral and vertical flight path during visual approaches without excessive maneuvering and with the aircraft configured for landing by the prescribed altitude.

The specifications in this provision are defined with consideration of the unique operating conditions typical to seaplanes, which can involve en route altitudes of 500 feet or lower over water and unpublished visual approaches at uncertified water aerodromes.

FLT 3.11.59

If the Operator utilizes amphibious aircraft, the Operator shall have a stabilized approach policy with associated guidance, criteria and procedures to ensure the conduct of stabilized approaches. Such policy shall specify:

(i) A minimum height for stabilization not less than 1000 feet AAL for approaches in IMC or not less than 500 ft. AAL for approaches in IMC as designated by the operator and/or State where a lower stabilization height is operationally required;

(ii) A minimum height for stabilization not less than 500 feet AAL for approaches in VMC;

(iii) Aircraft configuration requirements specific to each aircraft type (landing gear, wing flaps, speed brakes);

(iv) Speed and thrust limitations;

(v) Vertical speed limitations;

(vi) Acceptable vertical and lateral displacement from the normal approach path. **(GM)**

Note: This provision is not applicable for the seaplane operation. The provision was designed to assess the stabilized approach of amphibians while landing on land.

Auditor Actions

☐ **Identified/Assessed** OM policy/guidance/procedures for the conduct of a stabilized approach (focus: flight crew procedures/definition of criteria for stabilized approach).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** selected output from FDA/FDM/FOQA program (if applicable) (focus: data that indicates status of fleet stabilized approach performance).

☐ **Examined** relevant safety objectives including SPIs/SPTs (focus: proactive measures in place for identifying and preventing unstabilized approaches).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Flight Data Analysis (FDA) Program, Stabilized Approach and Stabilization Heights.

The intent of this provision is for the operator to implement a stabilized approach policy, as well as have guidance, criteria and procedures that ensure the maintenance of the intended lateral and vertical flight path during visual approaches and/or as depicted in published approach procedures without excessive maneuvering. The parameters to be considered at the 1000 ft. AAL and 500 ft. gates as well as in the definition of a stabilized approach are listed in items iii) through vi) of the provision.

The specifications in item (i) permit an operator, in accordance with operational requirements approved or accepted by the Authority, to establish stabilization criteria for heights lower than 1000 ft. AAL, but no lower than 500 ft. AAL (IMC or VMC), for approaches designated by the operator and/or State where:

- Lower minimum approach stabilization heights are authorized for turbo-propeller aircraft operations (e.g., 500 feet AAL on VMC/IMC approaches), **and/or**

- Maneuvering at a lower height AAL is required to meet instrument or other charted approach constraints (e.g. RNAV/RNP approaches, circling approaches and charted visual approaches), **and/or**

- Aircraft are required to comply with ATC speed constraints on final approach, **and/or**

- Deviations from selected approach stabilization criteria at a height lower than 1000 feet AAL, but above 500 feet AAL, are operationally required, and the operator can demonstrate pilot adherence to its stabilized approach policy via a continually monitored, managed and active flight data analysis (FDA) program.

The criteria used to conform to the specifications in item (vi) also typically address the maneuvering that may be required in accordance with a charted visual or instrument approach procedure.

FLT 3.11.60

The Operator shall have a go-around policy with associated procedures and guidance to ensure, when necessary, flight crews discontinue or go around from an approach in accordance with criteria established by the Operator. Such policy, procedures and guidance shall, as a minimum, address or define:

(i) Management support for flight crew go-around decision making;

(ii) Criteria that require flight crews to discontinue or go around from an approach or a landing (prior to the selection of reverse thrust, if applicable);

(iii) The go-around maneuver;

(iv) Duties and responsibilities of the PF and PM. **(GM)**

Auditor Actions

☐ **Identified/Assessed** OM policy/requirements for execution of a missed approach/go-around when approach not stabilized in accordance with established criteria (focus: flight crew guidance/procedures for execution of a missed approach/go-around).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to reduce the risk of ALAs by ensuring the flight crew will always discontinue or go around from an approach or landing (prior to the selection of reverse thrust) when a safe landing cannot be assured or a go-around is otherwise required.

The specification in item (i) is intended to foster a culture that supports flight crew go-around decision making. It is typically expressed by senior management in a manner that:

- Promotes the go-around as a normal procedure;
- Encourages go-around preparedness and considers the risk of the go-around maneuver itself;
- Empowers the PM (or the SIC) to call for a go-around at any time during approach and landing until the selection of reverse thrust;
- Ensures that go-around decision making does not affect the PIC's emergency authority in the event of (impending) abnormal or emergency situations;
- Does not inhibit flight crew reporting of go-around related events.

The criteria referred to in item (ii), which would require a go-around or discontinuation of an approach, typically include:

- The visibility or ceiling is below the minimum required for the type of approach at the specified gates (e.g. outer marker, 1,000' AAL or at minimums).
- The appropriate visual references are not obtained or are lost at or below MDA (or minimum descent height) or DA (or decision height) and through flare and touchdown by either pilot.
- Prior to touchdown the wind is above the operational or pre-determined wind limit, or the runway status is below the limit determined by the flight crew's landing performance assessment.
- The criteria for a stable approach are not met at the relevant approach gate(s) or can no longer be maintained until touchdown.
- Technical defects or failures occur during approach that might inhibit a safe continuation of approach, landing or go-around.
- Doubts by either pilot about the aircraft's geographic or spatial position.
- Confusion by either pilot about the use or behavior of the automation.
- It is foreseeable that the go-around routing and path will not be sufficiently clear of adverse weather or restricting traffic.
- If instructed by ATC.
- If required for type-specific reasons as outlined in the respective AOM.
- If required by special considerations associated with a CAT II/III operation.

The specification in item (iii) refers to the aircraft type-specific maneuver(s) for discontinuing a visual approach, an instrument approach or a landing prior to the selection of reverse thrust (i.e. rejected landing).

The specification in item (iv) typically addresses:

- Timely and effective PF briefings.
- PM stabilized approach criteria deviation callouts and compliance checks.
- PF and/or PM go-around callouts and subsequent execution of the go-around maneuver.
- PF/PM go-around-related memory items.
- PM actions in the event of (subtle) PF incapacitation or delayed response to a go-around callout.
- PF/PM actions in the event of destabilization below stabilization height including PM monitoring for possible excessive deviations from flight path, speed, vertical speed, pitch or bank during the approach, during the transition from approach to landing and during flare and touchdown.
- As applicable, the role of additional flight crew members on the flight deck (e.g., augmented crew members).

To support SRM activities an operator would typically:

- Include and monitor aircraft parameters related to CFIT and runway excursions in their flight data analysis (FDA) program in accordance with provisions in ORG sub-section 3.3.
- Monitor go-around policy compliance through their FDA program and establish go-around safety performance indicators (SPIs). In addition to monitoring go-arounds, aircraft operators would also monitor discontinued approaches.
- Include unstable approaches followed by a landing as a reporting event by the flight crew.
- Minimize the need for the flight crew to report a go-around due to an unstable approach unless there is another significant event associated with the go-around (e.g. flap overspeed).

An operator, in accordance with requirements of the Authority and consistent with OEM guidance, typically develops a go-around policy, guidance, criteria and procedures based on one or more of the following source references:

- Global Action Plan for the Prevention of Runway Excursions Coordinated by EUROCONTROL and the Flight Safety Foundation – January 2021;
- Flight Safety Foundation Go-Around Decision-Making and Execution Project Final Report March 2017;
- Flight Safety Foundation Reducing the Risk of Runway Excursions – Report of the Runway Safety Initiative – May 2009;
- BEA Study on Aeroplane State Awareness during Go-Around – August 2013;
- Any equivalent reference document approved or accepted by the Authority for the development of flight crew guidance related to the establishment of go-around policy and the prevention of unstable approaches and runway excursions.

4 Operations Engineering Specifications

General Guidance

Refer to the IRM for the definition of Operations Engineering.

4.1–4.2 (Intentionally open)

4.3 Aircraft Systems and Equipment Specifications

FLT 4.3.1

The Operator shall ensure all turbine engine aircraft in its fleet with a maximum certificated takeoff mass in excess of 5,700 kg (12,566 lb), or authorized to carry more than nine passengers, are equipped with a ground proximity warning system (GPWS) that automatically provides a warning to the flight crew when the aircraft is in close proximity to the earth's surface and there is:

(i)   Excessive descent rate;

(ii)   Excessive altitude loss after takeoff or go-around;

(iii)   Unsafe terrain clearance. **(GM)**

Auditor Actions

☐ **Identified/Examined** turbine engine aircraft type specifications/system descriptions related to GPWS.

☐ **Identified/Examined** method(s) used to ensure turbine engine aircraft are equipped with GPWS.

☐ **Other Action** (Specify)

Guidance

Refer to the IRM for the definition of Ground Proximity Warning System (GPWS).

In addition to the above-specified warnings, it is recommended that the GPWS also provide warnings for the following conditions:

• Excessive terrain closure rate;

• Unsafe terrain clearance when not in the landing configuration:
  ○ Landing gear is not locked down;
  ○ Flaps are not in the landing position.

• Excessive descent below the instrument glide path.

FLT 4.3.2–4.3.6   (Intentionally open)

FLT 4.3.7

The Operator shall ensure *all* aircraft in its fleet are equipped with at least one Emergency Locator Transmitter (ELT) of any type, except as required in FLT 4.3.8. **(GM)**

Auditor Actions

☐ **Identified/Examined** aircraft type specifications/system descriptions related to ELT.

☐ **Identified/Examined** method(s) used to ensure aircraft are equipped with any type of ELT.

☐ **Other Action** (Specify)

Guidance

Refer to the IRM for the definition of Emergency Locator Transmitter (ELT) which includes the definitions for the types of ELTs.

The intent of this provision is to ensure all aircraft, regardless of configuration (passenger, cargo, combi), are equipped with an ELT.

FLT 4.3.8

The Operator shall ensure aircraft in its fleet, for which the individual certificate of airworthiness is first issued after 1 July 2008, are equipped with at least one automatic Emergency Locator Transmitter (ELT).

Auditor Actions

☐ **Identified/Examined** aircraft type specifications/system descriptions related to automatic ELT.

☐ **Identified/Examined** method(s) used to ensure aircraft are equipped with automatic ELT.

☐ **Other Action** (Specify)

FLT 4.3.9

The Operator *should* ensure *all* aircraft in its fleet are equipped with at least one automatic Emergency Locator Transmitter (ELT).

Auditor Actions

☐ **Identified/Examined** aircraft type specifications/system descriptions related to automatic ELT.

☐ **Identified/Examined** method(s) used to ensure aircraft are equipped with automatic ELT.

☐ **Other Action** (Specify)

FLT 4.3.10

If the Operator utilizes amphibious aircraft, the Operator shall ensure that they are equipped with a functioning landing gear advisory system capable of aurally notifying the pilot of the gear position while on approach and capable of warning the pilot of a gear malfunction. **(GM)**

Auditor Actions

☐ **Identified/Examined** amphibious aircraft flight manual system description or Standard Type Certificate (STC) supplement related to gear advisory system.

☐ **Identified/Examined** method(s) used to ensure amphibious aircraft are equipped with gear advisory system.

☐ **Other Action** (Specify)

Guidance

Considering the consequence of a gear-down landing on water, retractable gear on amphibious seaplanes present an elevated risk to operators and pilots. The intent of this provision is to mitigate this risk with landing gear advisory systems that will alert the pilot to an improper selection of the gear position. Typically, the system is configured to announce the gear position and associated landing surface (for example, "Gear down for runway landing" and "Gear up for water landing") as the aircraft is slowed to approach speed. Additionally, a "Check Gear" warning is usually incorporated to notify the pilot of a malfunction.

FLT 4.3.11

The Operator shall ensure all seaplanes are equipped with equipment necessary to facilitate mooring, anchoring, or maneuvering the seaplane on water, appropriate to its size, mass, and handling characteristics. This equipment shall include, at minimum:

(i) An emergency anchor with sufficient rode (line) to prove 5:1 scope appropriate to the operating environment;

(ii) Fixed ropes for docking the aircraft as well as at least one line (50 feet or longer) carried onboard for securing aircraft to shore during emergency or beaching scenarios;

(iii) Float pumps;

(iv) In the case of single-engine seaplanes, at least one paddle stowed on board and accessible to the pilot. **(GM)**

Auditor Actions

☐ **Identified/Examined** seaplane anchor and rode on all aircraft and assessed their suitability.

☐ **Identified/Examined** ropes and long lines on all aircraft and assessed their suitability.

☐ **Identified/Examined** float pumps stowed and available on all aircraft.

☐ **Identified/Examined** suitable paddles stowed on all single-engine seaplanes.

☐ **Other Action** (Specify)

Guidance

The intent of this provision is to ensure all seaplanes are equipped with the ropes and equipment necessary for standard docking procedures, float maintenance and inspections, as well as for handling abnormal or emergency scenarios.

For expanded guidance refer to EASA Annex IV (CAT.IDE.A.285) and ICAO Annex 6 (P1 6.5.1).

FLT 4.3.12

The Operator shall ensure all seaplanes are equipped with one inflatable life preserver or inflatable personal flotation device for each person on board, which is stowed in a position easily accessible from the seat of the person for whose use it is provided. The floatation device shall meet the standards of the regulatory authority applicable to life preservers and flotation devices. **(GM)**

Auditor Actions

☐ **Identified/Examined** location, quantity, and suitability of inflatable life preservers/devices for all seaplanes.

☐ **Other Action** (Specify)

Guidance

The intent of this provision is to ensure, in addition to complying with regulatory requirements for life preservers or flotation devices aboard seaplanes, that only inflatable devices which are worn by or easily accessible to the passengers are used. PFDs and life jackets that are non-inflatable can become a hazard during a seaplane crash. Inherently buoyant devices can hinder egress from a partially or completely submerged aircraft if they are worn by passengers, or they can become difficult to find and take from the aircraft. Inflatable PFDs do not present these risks, provided passengers are properly briefed that the device must not be inflated until they have exited the aircraft.

Some regulatory authorities have proposed that passengers wear inflatable life jackets at all times while onboard seaplanes and Transport Canada Civil Aviation has now made this a mandatory requirement aboard seaplanes with a capacity of nine or fewer passengers. The FAA also suggests that operators consider establishing a policy where all occupants wear an inflatable PFD anytime the seaplane operates on or near the water.

Expanded guidance can be found at TCCA CARs: 703.83, AC 91-69A: Seaplane Safety for 14 CFR Part 91 Operators, Aviation Safety Study SA9401, Air Transportation Safety Recommendation A94-07, TCCA Airworthiness Manual: 551.403, and ICAO Annex 6 (P1 6.5.1).

Table 2.1–(Intentionally open)

Table 2.2–Operations Manual (OM) Content Specifications	
This table contains the fundamental OM content specifications required to achieve conformance with FLT 1.7.1 and FLT 2.1.10. The table also specifies Section 3 (DSP) provisions that must be addressed in the sections of the OM relevant to flight crew.	
Note: Specific flight crew policies, guidance, data and/or procedures that must also be addressed in the sections of the OM relevant to flight crew can be found in individual Section 2 provisions and are not duplicated in the table.	

General Information		DSP ISARP
(i)	General Operations Manual (GOM), to include:	None
(a)	Non-aircraft type related and/or standard operating procedures for each phase of flight, policies, procedures, checklists, descriptions, guidelines, emergency procedures and other relevant information;	None
(b)	Authorities, duties and responsibilities associated with the operational control of flights;	DSP 1.3.4, 1.3.5
(c)	If applicable, guidance that identifies and defines the common flight documents used by the flight crew, the FOO, FOA and/or other personnel responsible for operational control.	None

Aircraft Operating Information		DSP ISARP
(ii)	Aircraft Operating Manual (AOM), to include:	None
(a)	Normal, abnormal/non-normal and emergency procedures, instructions and checklists;	None
(b)	Aircraft systems descriptions, limitations and performance data.	None
(iii)	Minimum Equipment List (MEL) and Configuration Deviation List (CDL);	None
(iv)	Aircraft specific weight/mass and balance instructions/data (including loadsheet);	None
(v)	Instructions for the computation of the quantities of fuel and oil (if required) to be carried.	DSP 4.3.1

Areas, Routes and Airport Information	
(vi)	Route and airport instructions and information (departure, destination, en route and destination alternates, to include:
(a)	Airway manuals and charts, including information regarding communication facilities and navigation aids;
(b)	En route VFR communication procedures and communication failure procedures;
(c)	VFR charts and operator route information;
(d)	En route navigation procedures for utilizing GPS or other navigational aids and equipment;
(e)	Airport and runway analysis manual or documents;
(f)	Charts for certified water aerodromes;
(g)	Information or charts for uncertified water aerodromes, including coordinates, VFR arrival and departure procedures, preferred landing areas, protected areas, docking or mooring areas, obstacles and hazards, facilities, fuel availability, emergency services and communications;
(h)	Instructions for the selection, designation (on the OFP) and protection of departure, en route and destination alternate airports;
(i)	Water aerodrome classification including crew qualification criteria such as pilot training, LIFUS and experience requirements;
(j)	FMS or GPS database;
(k)	Weather minima required at departure, en route, and at destination;
(l)	Minimum en route altitudes;

Table 2.2–Operations Manual (OM) Content Specifications

	(m)	If applicable, flight monitoring requirements and instructions to ensure the PIC notifies the operator of en route flight movement or deviations from the OFP;
	(n)	If applicable, flight planning considerations that address the continuation of a flight after the failure of the critical engine on a two-engine aircraft;
	(o)	The essential information concerning the search and rescue services in the area over which the aircraft will be flown.

Training Information

(vii)	Training Manual, to include:	
	(a)	Details of all relevant training programs, policies, directives and requirements, including curricula and syllabi, as applicable, for basic operator familiarization, initial qualification, continuing qualification (including recency of experience), re-qualification, aircraft transition or conversion, upgrade to PIC and other specialized training requirements, as applicable;
	(b)	Curricula to include: ground training, simulator training, aircraft training, evaluation and certification, line flying under supervision, and any specialized training;
	(c)	Comprehensive syllabi to include lesson plans, procedures for training and the conduct of evaluations;
	(d)	The training program for the development of knowledge and skills related to human performance (Crew Resource Management/Dispatch Resource Management, CRM/DRM);
	(e)	The seaplane training specifications necessary to conform with FLT 2.2.1–FLT 2.2.4.

Other Information

(viii)	Cabin safety and emergency procedures relevant to the flight crew.
(ix)	Dangerous Goods manual or parts relevant to the flight crew, to include information and instructions on the carriage of dangerous goods and action to be taken in the event of an emergency.
(x)	Security Manual or parts relevant to the flight crew, including bomb search procedures.
(xi)	Ground Handling Manual or parts relevant to the flight crew, if required for flight crew to accomplish assigned duties (recommendation only and only applicable to cargo aircraft operations).

Table 2.3–Flight Crew Qualification Requirements
Fulfillment of the following flight crew certifications, qualifications, training and currency requirements shall be recorded and retained in accordance with ORG 2.6.1, and monitored and considered when assigning flight crew members to duty in accordance with FLT 3.4.1.

   (i)   Licenses/certification, including eligibility to exercise privileges of pilot license/certificate in international operations;

   (ii)   Specific pilot license/certification limitations (First Officer, relief pilot);

   (iii)   Specific qualifications (LVP, RVSM, ETOPS/EDTO);

   (iv)   Equipment qualifications (TCAS/ACAS, GPWS/EGPWS, HGS, HUD/EVS, PBN, PBCS);

   (v)   Recency-of-experience;

   (vi)   Medical status, including Medical Certificate;

   (vii)   Initial training and checking/line check/proficiency check/recurrent training and checking results;

   (viii)   Right seat qualification;

   (ix)   Type(s) qualification;

   (x)   Airport and route competence (including special airports);

   (xi)   Instructor/evaluator/line check airman qualification;

   (xii)   CRM/Human Factors training;

   (xiii)   Dangerous goods training;

   (xiv)   Security training;

   (xv)   Accrued flight time, duty time, duty periods and completed rest periods for the purposes of fatigue risk management and compliance with operator or State flight and/or duty time limitations.

Table 2.4–(Intentionally open)

Table 2.5–Route and Airport Knowledge Requirements
Each pilot crew member, in order to conform to the specifications of FLT 2.3.1, shall have adequate knowledge of the following elements related to areas, routes or route segments, and airports to be used in operations:

<div>

(i)   Terrain and minimum safe altitudes;

(ii)   Seasonal meteorological conditions;

(iii)   Meteorological, communication and air traffic facilities, services and procedures;

(iv)   Search and rescue services for the areas over which the aircraft will be flown;

(v)   Navigational facilities and procedures associated with the route along which the flight is to take place;

(vi)   VFR navigation procedures;

(vii)   GPS navigation and programming procedures;

(viii)   Flight planning, including fuel requirements, W&B calculations, weather minimums, daylight and grounding times, and tide considerations (if applicable);

(ix)   Procedures applicable to flight paths over heavily populated areas and areas of high air traffic density;

(x)   Water aerodrome familiarity, including obstacles, preferred take-off and landing areas, protected areas, docks, moorings, water hazards, depths, reefs, taxiing, and arrival and departure procedures;

(xi)   Airport obstructions, physical layout, lighting, approach aids and arrival, departure, holding and instrument approach procedures and applicable operating minima (if applicable).

</div>

Table 2.6–Water Aerodrome Operational Assessment
In order to conform to FLT 2.3.3 and FLT 2.3.4, Water aerodromes included in the Operator's route structure should be documented and categorized based on the following criteria:

- (i) The suitability of the take-off and landing areas, with consideration given to their dimensions and aircraft performance, and relative exposure to or protection from areas of open water and large wind fetch;
- (ii) Sufficient take-off and landing distance available, based on aircraft performance, to meet requirements for TORA, TODA, LDA and balked landing or engine failure considerations;
- (iii) Local environmental factors such as typical wind conditions and sea state (wave height or swell);
- (iv) Location and height of obstacles and terrain in the take-off and departure paths;
- (v) Obstacles or other hazards in taxi-channels, maneuvering areas, or near take-off and landing areas, such as reefs, shoals, or pilings;
- (vi) Tide, current and depth considerations (if applicable);
- (vii) The suitability and accessibility of floating or fixed docks, moorings, or beaching areas;
- (viii) Any other local factors such as marine traffic, water activities, or noise abatement considerations.

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Section 3 — Operational Control and Flight Dispatch (DSP)

Applicability

Section 3 addresses the requirements for operational control of flights conducted by single and multi-engine aircraft and is applicable to an operator that conducts such flights, whether operational control functions are conducted by the operator or conducted for the operator by an external organization (outsourced). Specific provisions of this section are applicable to an operator based on the operational system in use, the manner in which authority is delegated by the operator, and the responsibilities, functions, duties or tasks assigned to the personnel involved.

The ISSA standards and recommended practices (ISARPs) in Section 3 are applicable only to those aircraft that are of the type authorized in the Air Operator Certificate (AOC) and utilized in commercial passenger and/or cargo operations, unless applicability is extended to encompass non-commercial operations as stated in a note immediately under the body of the provision.

Table 3.1 categorizes the personnel that are delegated the authority to exercise operational control, assigned the overall responsibility for the overall operational control of a flight, assigned the individual responsibility to carry out one or more functions, duties or tasks related to the operational control of a flight, or assigned the duty to provide administrative support to others with responsibilities related to operational control.

Table 3.5 defines the competencies of operational control personnel appropriate to the assignment of overall responsibility for operational control and/or to carry out one or more operational control functions, duties or tasks according to their specific competencies.

All personnel utilized to perform operational control functions as defined in Table 3.1, *or that act in a manner consistent with the functional categories specified in Table 3.1 and the competencies specified in Table 3.5*, irrespective of management or post holder title, are subject to specified training and qualification provisions in this section relevant to the operational control function performed.

Individual DSP provisions, and/or individual sub-specifications within a DSP provision, that:

- Do not begin with a conditional phrase are applicable to all operators unless determined otherwise by the Auditor.

- Begin with a conditional phrase ("If the Operator...") are applicable if the operator meets the condition(s) stated in the phrase. The conditional phrase serves to define or limit the applicability of the provision (e.g. "If the operator utilizes…" or "If an FOO or FOA is utilized…").

- Begin with a conditional phrase that specifies the use of a Flight Operations Officer (FOO) by an operator are applicable when the operator assigns the FOO, as defined in the IRM and delegated authority in accordance with Table 3.1, responsibility to carry out operational control functions, duties or tasks related to *all* of the competencies of operational control as specified in Table 3.5.

- Begin with a conditional phrase that specifies the use of a Flight Operations Assistant (FOA) by an operator are applicable when the operator assigns the FOA, as defined in the IRM, responsibility to carry out operational control functions, duties or tasks related to one or more, *but not all*, competencies of operational control as specified in Table 3.5.

- Are applicable to all systems of operational control, but with differences in application to each system, will have those differences explained in the associated Guidance Material **(GM)**.

- Contain the phrase "personnel responsible for operational control" or "personnel with responsibility for operational control" refer to any suitably qualified personnel with responsibility for operational control as designated by the operator, to include the pilot-in-command (PIC) unless otherwise annotated.

- Contain training and qualification requirements are applicable to personnel, other than the PIC, that are assigned responsibilities related to the operational control of flights. PIC training and qualification requirements for all systems of operational control are specified in ISM Section 2 (FLT).

- Are eligible for conformance using variations, including Operational Variations approved by the Authority, that contain a note referring to the additional SRM and safety monitoring requirements necessary to ensure an acceptable level of safety is maintained.

> Where operational control functions, duties or tasks are outsourced to external service providers, an operator retains overall responsibility for operational control and will have processes to monitor applicable external service providers in accordance with ORG 2.2.1 located in Section 1 of this manual to ensure requirements that affect operational control are being fulfilled.

General Guidance

Authority and Responsibility

For the purposes of this section *authority* is defined as the delegated power or right to command or direct, to make specific decisions, to grant permission and/or provide approval, or to control or modify a process.

For the purposes of this section *responsibility* is defined as an obligation to perform an assigned function, duty, task or action. An assignment of responsibility typically also requires the delegation of an appropriate level of authority.

Operational Control

Operational control is defined as the exercise of authority to initiate, continue, divert or terminate a flight in the interest of the safety and security of the aircraft and its occupants. An operator may delegate the authority for operational control of a specific flight to qualified individuals, but typically retains overall authority to operate and control the entire operation. An operator may also assign the responsibility to carry out specific operational control functions, duties, or tasks related to the conduct of each flight to identifiable, qualified and knowledgeable individual(s), but always remains responsible (and accountable) for the conduct of the entire operation.

Any individuals delegated the authority to make specific decisions regarding operational control would also be responsible (and accountable) for those decisions. Additionally, individuals assigned the responsibility to carry out specific operational control functions, duties, or tasks related to the conduct of each flight are also responsible (and accountable) for the proper execution of those functions, duties, or tasks. In all cases, the authority and responsibility attributes of operational control personnel are to be clearly defined and documented by the operator, and communicated throughout the organization.

It is important to note that when an operator assigns the responsibility for functions, duties or tasks related to the initiation, continuation, diversion and termination of a flight to employees or external service providers, such operator retains full responsibility (and accountability) for the proper execution of those functions, duties or tasks by ensuring:

- The training and qualification of such personnel meets any regulatory and operator requirements;
- Personnel are performing their duties diligently;
- The provisions of the Operations Manual are being complied with;
- An effective means of oversight is maintained to monitor the actions of such personnel for the purpose of ensuring operator guidance and policy, and regulatory requirements, are complied with.

Authority for the Operational Control of Each Flight

In order to practically exercise operational control of flight operations, an operator typically delegates the authority for the initiation, continuation, diversion or termination of each flight to qualified individuals. Such delegation occurs in conjunction with an operator's overall system of operational control as follows:

- Shared systems, wherein operational control authority is shared between the pilot-in-command (PIC) **and** a flight operations officer/flight dispatcher (FOO) **or** designated member of management, such as the Director of Flight Operations (or other designated post holder);

  For example: The FOO (or designated member of management, as applicable) has the authority to divert, delay or terminate a flight if in the judgment of the FOO, a designated member of management or the PIC, the flight cannot operate or continue to operate safely as planned or released.

- Non-shared systems, wherein operational control authority is delegated **only** to the PIC.

  For example: Only the PIC has the authority to terminate, delay, or divert a flight if in the judgment of the PIC the flight cannot operate or continue to operate safely as planned.

Responsibility for Operational Control of Each Flight

While an operator always retains full responsibility (and accountability) for the entire operation, the responsibility for the practical operational control of each flight is typically assigned to qualified individuals. As with the delegation of authority, the assignment of responsibility related to the operational control of each flight occurs in conjunction with a system of operational control as follows:

- Shared systems, wherein operational control responsibility for each flight is shared between the PIC and an FOO, or between the PIC and a designated member of management such as the Director of Flight Operations (or other designated post holder). In either shared system, the PIC, FOO or designated member of management, as applicable, may be assisted by other qualified personnel assigned the individual responsibility (by the operator) to carry out specific operational control functions, duties or tasks. Such personnel, however, typically do not share operational control responsibility with the PIC, FOO or designated member of management, as applicable.

  For example: The FOO (or designated member of management) and the PIC are jointly responsible (and accountable) for the functions, duties or tasks associated with the operational control of a flight, such as pre-flight planning, load planning, weight and balance, delay, dispatch release, diversion, termination, etc. In such systems the FOO (or designated member of management) may carry out such responsibilities unassisted or be assisted by qualified personnel assigned the individual responsibility (by the operator) to carry out specific operational control functions, duties or tasks.

- Non-shared systems, wherein the PIC is solely responsible for all duties, functions, or tasks regarding operational control of each flight, and may carry out such responsibilities unassisted or be assisted by qualified personnel assigned the individual responsibility (by the operator) to carry out specific operational control functions, duties or tasks.

  For example: The PIC is solely responsible (and accountable) for the duties, functions, duties or tasks associated with the operational control of a flight, and the PIC either acts unassisted or is assisted by qualified personnel in carrying out functions, duties or tasks such as preflight planning, load planning, weight and balance, delay, dispatch release, diversion, termination, etc.

Responsibility for Individual Operational Control Functions, Duties, or Tasks

It is important to note that, except for purely non-shared (PIC only) system, and as illustrated by the examples in the previous paragraph, the assignment of responsibilities related to the operational control of each flight can be further subdivided among a number of qualified and specialized personnel. In such cases, the responsibility for individual or specific operational control functions, duties or tasks is typically assigned to FOA personnel who support, brief and/or assist the PIC, FOO personnel and/or designated member(s) of management, as applicable, in the safe conduct of each flight. Examples of such qualified personnel include Weather Analysts, Navigation Analysts/Flight Planning Specialists, Load Agents/Planners, Operations Coordinators/Planners, Maintenance controllers and Air Traffic Specialists.

Note: Some operators might choose to assign the responsibility for specialized operational control functions, such as those described in the example, to fully qualified FOO personnel. In such cases, an FOO, although qualified in all competencies of operational control, would be functionally acting as an FOA. Therefore, for the purpose of an audit, FOO personnel acting in this limited capacity are assessed as FOA personnel.

Note: Load Agents/Planners/Controllers who perform load control functions within the scope of ground handling operations may not be considered FOAs if trained and qualified in accordance with ISM Section 6 (GRH), Subsection 2.1, Training Program.

Administrative Support Personnel

FOA personnel are not to be confused with administrative personnel that lack any operational control authority, have very limited operational control responsibilities, and who simply provide, collect or assemble operational documents or data on behalf of the PIC, the FOO, designated member of management or the operator.

Administrative personnel may be present in any system of operational control, are excluded from the initial and continuing qualification provisions of this section, and may be qualified as competent through on-the-job training (OJT), meeting criteria as specified in a job description, or through the mandatory use of written instruments such as task cards, guidelines, or checklists.

Additional Note

For the purposes of this section, continuing qualification includes recurrent or refresher training as well as any training necessary to meet recency-of-experience requirements.

Definitions, Abbreviations, Acronyms

Definitions of technical terms used in this ISSM Section 3, as well as the meaning of abbreviations and acronyms, are found in the IATA Reference Manual for Audit Programs (IRM).

1   Management and Control

1.1–1.2   (Intentionally open)

1.3   Authorities and Responsibilities

DSP 1.3.1–1.3.3   (Intentionally open)

DSP 1.3.4

The Operator shall delegate the authority for operational control of each flight only to the PIC in a non-shared system of operational control, or to a combination of suitably qualified individuals in a shared system of operational control, to include the PIC and either:

(i)   An FOO in a shared system of operational control that requires the use of FOO personnel, or

(ii)   A designated member of management or Post Holder in a shared system of operational control that requires the use such management personnel. **(GM)**

Auditor Actions

☐   **Identified** specific system for operational control of flights as required by regulations.

☐   **Identified/Assessed** operational control system (focus: specific type of shared/non-shared operational control system in accordance with regulatory requirements).

☐   **Interviewed** responsible operational control manager(s).

☐   **Examined** job description for positions with delegated authority for operational control of flights (focus: authority/responsibilities appropriate for specific type of shared/non-shared system of operational control.

☐   **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Flight Monitoring.

Refer to General Guidance in the beginning this section for the definition of *Authority* in the context of operational control.

The intent of this provision is to ensure an operator delegates the authority to initiate, continue, divert or terminate a flight in the interest of the safety and security of the aircraft and its occupants (operational control) only to appropriately qualified individuals.

Examples of operational control systems are provided in the following table as a means to identify how authority is typically delegated by an operator.

System of Operational Control	Location	System Description
Shared System (General)	(i), (ii)	Operational control **authority** is shared between the PIC and a flight operations officer/flight dispatcher (FOO) or a designated member of management.
Full Shared System (PIC and FOO)	(i)	The PIC and FOO have **joint authority** over the decisions functions, duties or tasks associated with the operational control of a flight. Such systems are characterized by the use of flight monitoring and a dedicated communications system (voice or electronic) separate from the ATC system in order to maintain shared authority.
Partial Shared System (PIC and FOO)	(i)	The PIC and FOO have **joint authority** over all preflight decisions, functions, duties or tasks associated with the operational control of a flight, but during flight the PIC has sole authority. Such systems typically include an agreed point of transition from joint to sole responsibility (e.g. pushback or throttle advance for takeoff). This point of transition also typically coincides with the point when the MEL is no longer applicable and flight crews transition to inflight procedures. Partial Shared systems are characterized by the use of flight monitoring if required by the Authority or desired by the Operator and typically lack the dedicated communications system necessary to maintain shared authority in flight.
Shared System (PIC and Management)	(ii)	Functionally equivalent to a full-shared system except that the PIC and a designated member of management, often the Director of Flight Operations or any suitably qualified and knowledgeable member of management designated by the operator, have **joint authority** over the decisions, functions, duties or tasks associated with the operational control of a flight.
Non-shared System (General)	Main standard	Operational control **authority** is delegated only to the PIC who may or may not be assisted by other support personnel.
Non-shared System (PIC-only)	Main standard	The PIC has **sole authority** over any and all decisions and completes all tasks (unassisted) related to the operational control of each flight. This does not preclude administrative personnel from providing, collecting or assembling operational documents or data related to each flight on behalf of the PIC and as defined in Table 3.1. Such systems may employ flight monitoring if required by the Authority or desired by the operator.

System of Operational Control	Location	System Description
Non-shared System (PIC-assisted)	Main standard	The PIC has **sole authority** over any and all decisions regarding operational control. However, the PIC is assisted by others (e.g. FOO, FOA or a member of management) that lack operational control authority, but are assigned the responsibility to carry out specific functions, duties or tasks, such as flight planning, flight support, briefing and in-flight monitoring. Such systems employ flight monitoring if required by the Authority or desired by the operator.

Note: An FOA can be utilized in combination with FOOs or designated members of management in all systems of operational control. If such personnel are delegated authority in a shared system, however, it would be limited to their specific area of competency.

Table 3.1 categorizes operational control personnel, defines their authority, identifies their responsibilities and illustrates the relationship of such responsibilities to the operation as a whole.

DSP 1.3.5

The Operator shall retain the overall responsibility for operational control of each flight and assign the responsibility to carry out functions, duties or tasks related to the operational control of each flight only to the PIC, or to a combination of suitably qualified personnel as defined in Table 3.1, to include the PIC and as applicable to the system of operational control responsibility:

(i) If the Operator has a shared system of operational control responsibility, *either* of the following:

    (a) An FOO, who shares overall operational control responsibility with the PIC and/or supports, briefs and/or assists the PIC in the safe conduct of each flight, *or*

    (b) A designated member of management or Post Holder who shares overall operational control responsibility with the PIC and/or supports, briefs and/or assists the PIC or FOO in the safe conduct of each flight.

Note: FOA and/or administrative personnel can be utilized in combination with FOOs and/or designated members of management in a shared system of operational control, but neither would share operational control responsibility with the PIC, FOO or designated member of management.

(ii) If the Operator has a non-shared system of operational control responsibility, one or more of the following:

    (a) An FOO who supports, briefs and/or assists the PIC in the safe conduct of each flight, or

    (b) A designated member of management or Post Holder who supports, briefs and/or assists the PIC or FOO in the safe conduct of each flight, or

    (c) FOA personnel who support, brief and/or assist the PIC or FOO in the safe conduct of each flight, and/or

    (d) Administrative personnel who do not support, brief and/or assist the PIC or FOO, but provide, collect or assemble operational documents or data relevant to the conduct of each flight. **(GM)**

Note: An operator may choose to assign limited responsibilities to fully qualified FOO personnel, or to utilize them only to carry out individual or specific operational control functions, duties or tasks. In such cases, an FOO would be functionally acting as an FOA.

Auditor Actions

☐ **Identified/Assessed** operational control system (focus: operator has overall responsibility for operational control; responsibilities for individual functions/duties/tasks assigned to positions as specified in Table 3.1.

☐ **Interviewed** responsible operational control manager(s).

☐ **Examined** job description for positions with responsibility for individual operational control functions/duties/tasks (focus: position responsibilities appropriate for specific type of shared/non-shared system of operational control).

☐ **Observed** operational control/flight dispatch operations (focus: responsibilities for individual functions/duties/tasks).

☐ **Other Actions** (Specify)

Guidance

Refer to General Guidance in the beginning this section for the definition of *Responsibility* in the context of operational control.

The intent of this provision is to specify the various ways operational control responsibilities can be assigned by an operator and to ensure only suitably trained and qualified individuals, in addition to the PIC, are assigned overall responsibility for operational control or the responsibility to carry out one or more functions, duties or tasks related to the operational control of each flight.

The specifications of this provision apply irrespective of post holder titles or whether personnel positions are described in the OM. If personnel are assigned the responsibility to carry out operational control functions, duties or tasks, and act in a manner consistent with the specifications of this provision or the descriptions found in Table 3.1, the specifications of this provision are applicable, as well as the specifications of ensuing provisions that require such personnel to be trained and qualified for the operational control responsibilities, functions, duties or tasks that they are performing.

Examples of operational control systems are provided in the following table as a means to identify how responsibility is typically assigned by an operator.

System of Operational Control	Item	System Description
Shared Systems (General)	(i) (a), (i) (b)	Operational control responsibility is shared between the PIC and an FOO or designated member of management.
Full Shared System (PIC and FOO)	(i) (a)	The PIC and FOO are **jointly responsible** for the decisions, functions, duties or tasks associated with the operational control of a flight. Such systems are characterized by flight monitoring and a dedicated communications system (voice or electronic) separate from the ATC system in order to maintain joint responsibility.
Partial Shared System (PIC and FOO)	(i) (a)	The PIC and FOO are **jointly responsible** for all preflight decisions, functions, duties or tasks associated with the operational control of a flight, but during flight the PIC has sole responsibility. Such systems are characterized by the use of flight monitoring if required by the Authority or desired by the Operator and typically lack the dedicated communications system necessary to maintain shared responsibility in flight.

System of Operational Control	Item	System Description
Shared System (PIC and Management)	(i) (b)	Functionally equivalent to a full-shared system except that the PIC and a designated member of management, often the Director of Flight Operations or any suitably qualified and knowledgeable member of management designated by the operator are **jointly responsible** for the functions, duties or tasks associated with the operational control of a flight. The responsibility to carry out actual functions, duties or tasks such as flight planning, supporting/briefing the crew or flight monitoring is typically assigned to other non-management personnel (e.g. FOOs and/or FOAs).
Non-shared Systems (General)	(ii) (a) - (d)	Operational control responsibility is assigned only to the PIC who may or may not be assisted by other support personnel.
Non-shared System (PIC-only)	Parent provision and/or (ii) (d)	The PIC is **solely responsible** for completing all tasks (unassisted) related to the operational control of each flight. This does not preclude administrative personnel from providing, collecting or assembling operational documents or data related to each flight on behalf of the PIC as defined in Table 3.1. Such systems employ flight monitoring if required by the Authority or desired by the operator.
Non-shared System (PIC-assisted)	(ii) (a) - (c)	The PIC is **solely responsible** for all decisions regarding operational control. However, the PIC may be assisted by others, such as an FOA, or an FOO or member of management that functions as an FOA, who is assigned the responsibility to carry out specific functions, duties or tasks, such as flight planning, support, briefing and in-flight monitoring. Such systems employ flight monitoring if required by the Authority or desired by the operator.

> ***Note:***
> - *FOOs can be present in shared or non-shared systems of operational control to support, brief and/or assist the PIC or designated member of management in all competencies of operational control.*
> - *FOAs can be present in any system of operational control except purely non-shared (PIC only) systems, but their responsibilities are limited to their area(s) of expertise.*
> - *FOAs may be assigned specific flight responsibilities depending on area of expertise or general (non-flight specific) responsibilities in support of other operational control personnel or functions.*
> - *The responsibilities of administrative personnel utilized in operational control functions are limited to the provision or collection of operational data.*

Table 3.1 categorizes operational control personnel, defines their authority, identifies their responsibilities and illustrates the relationship of such responsibilities to the operation as a whole.

Table 3.5 defines the competencies of individuals assigned the responsibility for operational control and/or the responsibility to carry out individual operational control functions, duties or tasks.

When operational control functions are outsourced to external service providers, an operator would retain overall responsibility for operational control and would ensure such service providers are subjected to contractual and monitoring processes as specified in ORG 2.2.1.

FOO and/or FOA responsibilities for operational control typically begin when assigned a flight during flight preparation and end after flight termination.

1.4–1.6   (Intentionally open)

1.7   Operations Manual

DSP 1.7.1

The Operator shall have an Operations Manual (OM) for the use of operational control personnel, which may be issued in separate parts, and which contains or references the policies, procedures and other guidance or information necessary for compliance with applicable regulations, laws, rules and Operator standards. As a minimum, the OM shall:

(i)   Be managed and controlled in accordance with ORG 2.5.1;

(ii)   Have all parts relevant to operational control personnel clearly identified and defined;

(iii)   Be in accordance with the specifications in Table 3.2. **(GM)**

Auditor Actions

☐   **Identified/Assessed** operational documents that comprise the OM (focus: external documents referenced in OM/used by operational control personnel).

☐   **Interviewed** responsible operational control manager(s).

☐   **Examined** selected parts of OM (focus: contents in accordance with in Table 3.2).

☐   **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure operational control personnel are able to find all information necessary to perform their functions either within the OM or within another document that is referenced in the OM. The OM is normally identified as a source of operational information approved or accepted for the purpose by the operator or the State.

Human factors are considered in the design of the OM to achieve the following:

• Preparation of documentation in a useable format for information presentation, at the appropriate reading level and with the required degree of technical sophistication and clarity.

• Improving user performance through the use of effective and consistent labels, symbols, colors, terms, acronyms, abbreviations, formats and data fields.

• Ensuring the availability and usability of information to the user for specific tasks, when needed, and in a form that is directly usable.

• Designing operational procedures for simplicity, consistency and ease of use.

• Enabling operators to perceive and understand elements of the current situation and project them to future operational situations.

• Minimizing the need for special or unique operator skills, abilities, tools or characteristics.

• Assessing the net demands or impacts upon the physical, cognitive and decision-making resources of the operator, using objective and subjective performance measures.

2   Training and Qualification

2.1   Training and Evaluation Program

General

DSP 2.1.1

The Operator shall have a training program, approved or accepted by the Authority, to ensure the operational control personnel specified in Table 3.1, as applicable, are competent to perform any assigned duties relevant to operational control in accordance with the applicable specifications of Table 3.5. Such program shall, as a minimum, address:

(i)   Initial qualification;

(ii)   Continuing qualification. **(GM)**

Auditor Actions

☐ **Identified/Assessed** training program for operational control personnel (focus: program addresses initial/continuing qualification for functions specified in Table 3.1).

☐ **Interviewed** responsible operational control manager(s).

☐ **Examined** training/qualification course curricula for operational control personnel (focus: course content as specified in Table 3.5).

☐ **Examined** training/qualification records of selected operational control personnel (focus: completion of initial/recurrent training).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Continuing Qualification, State Acceptance and State Approval.

Not all states require the approval or acceptance of a training program for operational control personnel. In such cases, state acceptance is considered implicit.

A training program for operational control personnel typically addresses:

- For FOO and FOA personnel, initial and recurrent training in accordance with the specifications of Table 3.1 and Table 3.5;

- For FOO and FOA personnel, a method of qualification through written, oral and/or practical evaluation;

- For administrative support personnel as defined in Table 3.1, on-the-job training (OJT), job descriptions, task cards, guidelines, checklists, training materials or other written means to establish competence.

The training curriculum normally specifies minimum training hours for each subject area and also indicates whether it has been mandated by the Authority or operator.

The specifications of this provision apply to FOO or FOA personnel who are delegated authority and/or assigned responsibilities in accordance with DSP 1.3.4 and/or DSP 1.3.5, respectively.

FOO personnel who have completed training programs conducted in accordance with ICAO Doc 7192-AN/857, Part D, Training Manual–Flight Operations Officers/Flight Dispatchers, Second Edition, meet the specifications of this provision.

FOO initial training programs contain all of the competencies in Table 3.5 that are relevant to the operations of the operator.

FOA initial training programs contain the competencies in Table 3.5 that are relevant to their job function as determined by the operator.

Different methods of conducting recurrent training are acceptable, including formal classroom study, home study, computer-based training, seminars and meetings. All recurrent training, regardless of method, is documented and retained in accordance with ORG 2.2.1.

3 Line Operations

3.1 General

DSP 3.1.1 (Intentionally open)

DSP 3.1.2

The Operator shall have a process or procedures to ensure the PIC is provided with all documents, information and data necessary for the safe conduct of the flight. **(GM)**

Auditor Actions

☐ **Identified/Assessed** operational control process/procedure for provision of documentation to flight crew (focus: definition of required documents/information/data provided to flight crew).

☐ **Interviewed** responsible operational control manager(s).

□ **Observed** operational control/flight dispatch operations (focus: PIC provided with documents/information/data necessary for safe conduct of flight).

□ **Other Actions** (Specify)

Guidance

The OM typically specifies the documents required by the PIC for the safe conduct of each flight. This list of required documents may also be replicated on the folder/envelope containing such documents or displayed in the operational control/flight dispatch center/office for reference purposes. Additionally, the process or procedures associated with the provision of flight documents typically includes safeguards to ensure all of the required documents are provided to the PIC prior to each flight.

3.2 (Intentionally open)

3.3 Aircraft Performance and Load Planning

DSP 3.3.1

The Operator shall have guidance and procedures to ensure a planned flight does not exceed:

(i) The maximum performance takeoff, en route and landing weight limits, based upon environmental conditions expected at the times of departure, along the route of flight and at arrival;

(ii) The aircraft structural ramp, takeoff and landing weight limits. **(GM)**

Auditor Actions

□ **Identified/Assessed** guidance/procedures for application of aircraft performance data for planned flights (focus: flight planning accounts for aircraft takeoff/en route/landing performance weight limitations).

□ **Interviewed** responsible operational control manager(s).

□ **Coordinated** with maintenance operations (focus: preflight consideration of aircraft performance limitations).

□ **Observed** operational control/flight dispatch operations (focus: guidance/procedures/restrictions that ensure flights do not exceed aircraft performance weight limitations).

□ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure the presence of guidance and procedures for the calculation of maximum takeoff and landing weights, based on takeoff, en route, landing performance, structural limitations as well as any applicable MEL restrictions. Additionally, such guidance and procedures address the means used to prevent an aircraft from being loaded in a manner that precludes a flight from being operated overweight (e.g. notification of weight restrictions to a Load Control Center/office or equivalent).

DSP 3.3.2

If the Operator conducts flights that are not wholly within radar-controlled airspace, a flight following system and process shall be in place which allows operational control personnel to monitor the location of aircraft using either:

(i) A portable GPS-based tracking system or;

(ii) An integral GPS-based tracking system installed in the aircraft. **(GM)**

Auditor Actions

□ **Identified/Assessed** system/process/procedures for flight following.

□ **Interviewed** responsible operational control manager(s).

□ **Examined** GPS tracking and monitoring system.

□ **Other Actions** (Specify)

Guidance

Seaplane operations are often conducted in uncontrolled airspace and along routes where radar service is not always available. They are often conducted in remote areas where radio contact with base or en route facilities is not possible. These considerations compound safety concerns associated with VFR operations and the use of destinations not served by the safety infrastructure typical at most airports.

There are many GPS tracking and satellite communication systems available to operators. They range from simple portable trackers that allow operational control personnel to monitor the position of aircraft carrying the tracking device, to devices that provide tracking, emergency alert, and satellite communications capabilities. These systems, especially those that allow pilots operating in remote locations to send messages or alert dispatchers of an emergency, greatly increase the emergency response capability of operators and search and rescue providers, as well as providing practical dispatching advantages by keeping crews in contact with base.

4   Operational Control Requirements and Specification

4.1–4.2   (Intentionally open)

4.3   Fuel Planning

DSP 4.3.1

The Operator shall have a system, process and/or procedures to ensure an aircraft carries a sufficient amount of usable fuel to complete each planned flight safely and allow for deviations from the planned operation. **(GM)**

Auditor Actions

☐ **Identified/Assessed** system/process/procedures for fuel planning for all flights (focus: flight planning takes into account possible deviations from planned operation in calculating usable fuel for safe completion of flight).

☐ **Interviewed** responsible operational control manager(s).

☐ **Examined** selected OFPs (focus: fuel load meets/exceeds minimum required departure/dispatch fuel).

☐ **Observed** operational control/flight dispatch operations (focus: process or procedures that ensure sufficient usable fuel for safe flight completion taking into account unplanned deviations).

☐ **Coordinated** with flight operations (focus: complementary procedures for assessing minimum required fuel).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to define the foundation necessary to support the practical implementation of an operator's fuel policy. It also addresses the baseline criteria to be considered in any methodology used in the determination of total usable fuel required to complete each planned flight safely. Simply put, it requires an operator to use system, process and/or procedures alone or in any combination in order to fulfill operational requirements related to the implementation of its fuel policy. In all cases the robustness of any such methodologies is commensurate with the breadth and complexity of the operation and takes into account:

- The aircraft-specific data and operating conditions for the planned operation.
- The following components of usable fuel required in accordance with the respective provisions of this sub-section:
    - Taxi fuel;
    - Trip fuel in;
    - Contingency fuel;

- If required (as applicable to each flight):
  - Destination alternate fuel, or
  - No-alternate fuel or
  - Isolated airport fuel
- Final reserve fuel;
- If required, additional fuel;
- If requested by the PIC, or the PIC and FOO in a shared system of operational control, discretionary fuel.

Some regulatory authorities or operators may classify destination alternate fuel, no alternate fuel and Isolated airport fuel under the common heading of "Alternate Fuel" in regulations and/or flight planning systems.

It is important for operational control personnel and the flight crew to have a clear and common understanding of the terms used in the operator's fuel policy, as such understanding is the key to successful flight planning and completion. Equally important is the notion that differences in terminology may exist from operator to operator. Regardless of the terms used, however, an operator can conform to the provisions of this sub-section if the pre-flight computation of usable fuel is substantially equivalent, allocates fuel in a similar fashion, and has the components that, when combined, result in an equivalent or greater amount of fuel.

Fuel calculations are typically made by a flight crew member, a Flight Operations Officer/Flight Dispatcher (FOO), or both.

Guidance on the organizational and operational systems and processes related to the implementation of fuel policy is contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

Table 3.1–Operational Control Personnel			
This table categorizes operational control personnel, defines the scope of their authority, identifies their responsibilities and illustrates the relationship of such responsibilities to the operation as a whole. It shall be used for the purposes of applying relevant Section 3 provisions and is provided to ensure suitably qualified persons are designated, where applicable, to support, brief and/or assist the pilot-in-command (PIC) or FOO or designated member of management in the safe conduct of each flight. The terms used in the table to identify operational control personnel are generic and might vary. Personnel, however, employed in operational control functions that are delegated the authority and/or assigned the responsibility to carry out functions, duties or tasks, as outlined in the table, are subject to the training and qualification requirements commensurate with their position.			
Operational Control	**Authority** (DSP 1.3.4)	**Responsibilities, Including the Assignment of Functions, Duties or Tasks** (DSP 1.3.5)	**Training and Qualification** *Operator shall designate responsibilities and ensure personnel are competent to perform the job function.*
Administrative Support Personnel[1] (e.g. gate agent)	**None** Do **not** make recommendations or decisions regarding the operational control of a flight.	Provide, collect or assemble operational documents or data only.	Not subject to initial and recurrent training in the competencies of operational control in Table 3.5 and are qualified via On the Job Training (OJT), job descriptions, task cards, guidelines, checklists, training materials or other written means to establish competence.
Flight Operations Assistant (FOA)[4] (e.g. Weather Analysts, Navigation Analysts/Flight Planning Specialists, Load Agents/Planners, Operations Coordinators/Planners, Maintenance controllers, Air Traffic Specialists, Planners/Controllers unless qualified in accordance with GRH)	**None or limited to area(s) of expertise** May be authorized to make decisions or recommendations in area(s) of expertise.[5] (e.g., maintenance controller grounds aircraft.)	Support, brief and/or assist the PIC or FOO. Specializes in one or more of the elements of operational control.[3] Collects, provides filters, evaluates and applies operational documents or data relevant to **specific** elements of operational control. Makes recommendations or decisions in area(s) of expertise.	**For each area of expertise or specialization** [3] Subject to initial and recurrent training in accordance with DSP 2.1.1 **specific** competencies of Table 3.5 relevant to the job function and operations of the Operator.

Table 3.1–Operational Control Personnel			
Flight Dispatcher or Flight Operations Officer (FOO)[4] or **Designated Member of Management** (e.g. Director of Operations or other nominated Post Holder)	**None or limited or shared**[2] May share operational control authority with the PIC.[2] May be authorized to make recommendations or decisions.[5]	May share operational control responsibility with the PIC.[2] Support, brief, and/or assist the PIC. Collects, provides, filters, evaluates and applies operational documents or data relevant to **all** elements of operational control.[3] Makes recommendations or decisions.	Subject to initial and recurrent training in accordance with DSP 2.1.1 and all competencies of Table 3.5 relevant to the operations of the Operator.
Pilot in Command (PIC)	**Full/shared**[2] Has final authority to ensure the safe operation of the aircraft. May share authority and responsibility for operational control.	**Full/shared**[2] Responsible for safe conduct of the flight. Collect, provide, filter, evaluate and applies operational documents or data relevant to **all** competencies of operational control.[3]	Subject to training and qualification requirements specified in ISM Section 2.
Legend	**1** - Personnel lacking any authority or responsibility for operational control are identified in the table for the purposes of excluding them from the training and qualification provisions of this section. **2** - FOO personnel used in conjunction with a shared system of operational share authority and responsibility with the PIC. **3** - The competencies of operational control are contained in Table 3.5. FOA personnel that specialize in one competency of operation control may be referred to as Weather Analysts, Navigation Analysts/Flight Planners, Operations Coordinators/Planners, Maintenance controllers, Air Traffic Specialists and Load Agents/Planners/Controllers unless qualified in accordance with GRH. **4** - The terms used in this table to identify operational personnel are generic and may vary. Personnel utilized in operational control functions and assigned the responsibilities delineated in the table are subject to the relevant qualification and training provisions in this section. **5** - Authority limited in scope to decision making in area of expertise.		

Table 3.2–Operations Manual (OM) Content Specifications	
This table contains the fundamental OM content specifications required to achieve conformity with DSP 1.7.1. It also specifies Section 2 (FLT) provisions that must be addressed in the sections of the OM relevant to personnel with responsibilities related to the operational control of flights. *Note: Specific policies, guidance, data and/or procedures that must be addressed in the sections of the OM relevant to operational control personnel can be found in individual Section 3 provisions and are not duplicated in the table.*	
General Information	**FLT ISARP**
(i) General Operations Manual (GOM), to include:	None
(a) Non-aircraft type related and/or standard operating procedures for each phase of flight, policies, procedures, checklists, descriptions, guidelines, emergency procedures and other relevant information;	None
(b) Authorities, duties and responsibilities associated with the operational control of flights;	None
Aircraft Operating Information	**FLT ISARP**
(ii) Aircraft Operating Manual (AOM), to include:	None
(a) Normal, abnormal/non-normal and emergency procedures, instructions and checklists;	None
(b) Aircraft systems descriptions, limitations and performance data.	None
(iii) MEL and CDL, to include applicability and a description of the relationship between the Minimum Equipment List (MEL) and the Master Minimum Equipment List (MMEL);	None
(iv) Aircraft specific weight and balance instructions/data;	None
(v) Instructions for the conduct and control of ground de/anti-icing operations.	FLT 3.9.6
Areas, Routes and Airport Information	
(vi) Route and water aerodrome instructions and information, to include:	
(a) VFR charts, including information regarding communication facilities and navigation aids;	
(b) Water aerodrome charts, including VFR arrival and departure procedures, preferred landing areas, docking or mooring areas, facilities, fuel availability and comms;	
(c) If applicable, flight following requirements and instructions to ensure the PIC notifies the operator of en route flight movement or deviations from the OFP including procedures for loss of communication between the aircraft and the FOO, dispatcher or flight follower;	
(d) Flight following procedures for GPS tracking systems, if applicable;	
(e) Regional guidance necessary to comply with local regulations;	

Table 3.2–Operations Manual (OM) Content Specifications		
Training Information		
(vii)	Training Manual, to include:	
	(a)	Details of all relevant training programs, policies, directives and requirements, including curricula and syllabi, as applicable, for initial qualification, continuing qualification and other specialized training;
	(b)	Curricula for ground training, evaluation and certification;
	(c)	Comprehensive syllabi to include lesson plans, procedures for training and conduct of evaluations;
	(d)	The training program for the development of knowledge and skills related to human performance (Crew Resource Management/Dispatch Resource Management, CRM/DRM);
	(e)	training program for all pilots and operational control personnel using GPS flight following system, if applicable to conform with DSP 3.3.1.
Other Information		
(viii)	Cabin safety and emergency procedures relevant to operational control personnel.	
(ix)	Dangerous Goods manual or parts relevant to operational control personnel, to include information and instructions on the carriage of dangerous goods and action to be taken in the event of an emergency.	
(x)	Security Manual or parts relevant to operational control personnel, including bomb search procedures.	

Table 3.3 and Table 3.4–(Intentionally open)

Table 3.5–Competencies of Operational Control	
The Operator shall ensure FOO or FOA personnel demonstrate knowledge and/or proficiency in the competencies of operational control appropriate to the assignment of responsibility to carry out operational control functions, duties, or tasks, to include, as applicable:	
Competency	**FOA Relevancy Examples**
(i) Air law	• Air Traffic Specialists
(ii) Flight performance	• As relevant to function
(iii) Navigation	• Navigation Analysts and Flight Planning Specialists
(iv) Aircraft General knowledge and instrumentation	• As relevant to function
(v) Meteorology	• Weather Analysts and Meteorologists
(vi) Mass and balance	• Load Agents, Load Planners and Load Controllers
(vii) Operational procedures	• As relevant to function
(viii) Flight planning and monitoring	• Flight Planning Specialists and Flight Followers
Notes	
• FOO personnel that are assigned overall operational control responsibility for specific flights, assigned responsibilities in all competencies of operational control or used in shared systems of operational control demonstrate knowledge and/or proficiency in all applicable competencies in this table. • FOO or FOA personnel assigned the individual responsibility to carry out specific operational control functions, duties or tasks demonstrate knowledge and/or proficiency in competencies relevant to area of expertise or function as determined by the operator or State. • It is important to note that some operators might choose to assign the responsibility for specific operational control functions to fully qualified FOO personnel. In such cases an FOO is acting in a limited capacity and although qualified in all competencies of operational control, would be functionally acting as an FOA.	

Table 3.6–Guidance for Development of Operational Control Competency Course Syllabi	
The Operator typically develops a competency course curriculum and related syllabi for each competency in Table 3.5. Curriculum and associated syllabi development can be based on one or more source references or their equivalent: • ICAO Doc 10106 • ICAO Doc 7192 • 14 CFR § 121.415 and 14 CFR § 121.422 • EASA ORO.GEN.110 and related AMC and GM	

	Competency Course Subjects	Examples of Syllabus Outlines (ICAO Doc 10106)
(i)	Air law	To enable operational control personnel to identify the basic requirements for authorization to operate a commercial air transportation service, air law may include topics such as: • Conventions and agreements • National organizations and rulemaking process • Air services and airspace • ATC separation and clearances • Search and rescue (SAR) • Security • ATS flight plan (FPL) • Flight safety, accident and incident
(ii)	Flight performance	To enable the operational control personnel to identify the basic elements of aircraft performance, flight performance may include topics such as: • Certification standards • Influencing variables on performance • Takeoff performance • Accelerate-stop distance • Balanced field length • Takeoff climb • Obstacle limits • Reduced/de-rated thrust • Cruise • Cost index • Driftdown • Landing performance • Quick turnaround limits
(iii)	Navigation	To enable the operational control personnel to identify the fundamentals of navigation and equipment utilized in navigation, navigation may include topics such as: • Basics of general navigation • Latitude, longitude • Time and time conversions • Determining sunrise, sunset, civil twilight • Directions • Distance

Table 3.6–Guidance for Development of Operational Control Competency Course Syllabi		
		• Charts • Basics of radio navigation • NDB • VOR • DME • ILS • Radar • GPS/GNSS • RNAV • FMS • RNP • Satellite augmentation systems
(iv)	Aircraft General knowledge and instrumentation	To enable the operational control personnel to identify the fundamentals of navigation and equipment utilized in navigation, navigation may include topics such as: • Units and basic definitions • Lift • Drag • Thrust • Weight • Flight mechanics • System design, loads, stresses, maintenance • Hydraulics • Landing gear • Primary and secondary flight controls • Pneumatics • Air conditioning systems • Ice and rain protection • Fuel • Electrics • Engines and APU • Flight management and navigation • Automatic flight • Communications • Fire protection • Equipment and furnishings • Indicating and recording systems
(v)	Meteorology	To enable the operational control personnel to interpret meteorological information, reports, forecasts and warnings correctly and efficiently, meteorology may include topics such as: • Atmosphere, composition, extent, vertical division • Air temperature, definition and units • Atmospheric pressure and density

Table 3.6–Guidance for Development of Operational Control Competency Course Syllabi		
		- International standard atmosphere (ISA) - Altimetry - Wind - Clouds and fog - Air masses and fronts - Pressure systems - Climatology - Icing conditions - Turbulence - Wind shear - Thunderstorms - Flight hazards - Meteorological information
(vi)	Mass and balance	To enable the operational control personnel to identify the basic requirements for load planning, calculation of payload, loadsheet preparation, and aircraft balance, mass and balance may include topics such as: - Importance of structural limitations - Mass terms - Mass limits, structural limitations - Cargo compartment limitations - Mass calculations - Definition of center of gravity (CG) - Load and trim sheet, general considerations
(vii)	Operational procedures	To enable the operational control personnel to policies, procedures, guidance, and instructions developed to perform their respective functions, operating procedures may include topics such as: - Operational control responsibilities - SMS - Operating manuals - Aircraft airworthiness - Operational limitations and minima - Duty time limitations and rest requirements - Operational flight plan contents - Anti-icing, de-icing - Security (unlawful events) - Abnormal and emergency procedures - Communication systems and procedures

Table 3.6–Guidance for Development of Operational Control Competency Course Syllabi		
(viii)	Flight planning and monitoring	To enable the operational control personnel to complete an operational flight plan in accordance with laid-down rules and standards and to apply the skills acquired to effectively maintain a flight watch, and monitor fuel consumption, en route weather including winds, aircraft performance including the limitations imposed by MEL restrictions, in-flight equipment failures, security problems, and the effects of and on hazardous materials, restricted articles, and perishable cargo, flight planning and monitoring may include topics such as: • Weather analysis • AIP/NOTAM analysis • Track selection & flight level • Equipment requirements • Airport suitability • Fuel requirements • Payload planning • ETOPS/EDTO • MEL/CDL • ATC/ATM • Security (unlawful events) • Abnormal and emergency procedures

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Section 4 — Aircraft Engineering and Maintenance (MNT)

Applicability

Section 4 is applicable to all operators, and addresses aircraft engineering and maintenance functions relevant to the airworthiness of the aircraft, engines and components.

Individual provisions or sub-specifications within a provision that:

- Begin with a conditional ("If the Operator...") are applicable if the operator meets the condition(s) stated in the phrase.
- Do not begin with a conditional phrase are applicable unless determined otherwise by the Auditor.

  An operator may choose to have certain functions within the scope of ground handling operations (e.g. aircraft loading, aircraft ground handling) performed by maintenance operations personnel. If this situation exists, the operator must be in conformity with the ISARPs contained in Section 6, Ground Handling Operations (GRH), that are applicable to the ground handling functions performed by maintenance operations personnel.

Where an operator outsources the performance of aircraft engineering and maintenance functions to external organizations, the operator retains overall responsibility for such functions, and must demonstrate processes for monitoring the applicable external organization(s) in accordance with ORG 2.2.1 located in Section 1 of this manual.

General Guidance

Definitions of technical terms used in this ISM Section 4, as well as the meaning of abbreviations and acronyms, are found in the IATA Reference Manual for Audit Programs (IRM).

Many provisions in this section contain the phrase "organization that performs maintenance (or performs maintenance functions) for the Operator." This phrase is inclusive and refers to any organizations that might perform maintenance on the operator's aircraft, either an external maintenance organization or the operator's own maintenance organization.

The term "maintenance" as used in above-referenced phrase means restoring or maintaining an aircraft, aircraft engine or aircraft component to or in an airworthy and serviceable condition through the performance of functions such as repair, modification, overhaul, inspection, replacement, defect rectification and/or determination of condition.

If a standard or recommended practice requires an operator to ensure that certain provisions (specifically in MNT subsection 4) are satisfied by an organization that performs maintenance or maintenance operational functions for the operator under a maintenance agreement, then the operator monitors such maintenance organization to ensure specifications in the relevant ISARPs are being fulfilled.

If the organization that has a maintenance agreement with the operator subcontracts certain maintenance functions to other maintenance organizations (as agreed between parties), then the operator's monitoring of the contracted maintenance organization would also ensure such organization is performing oversight of all relevant subcontractors. For example, when an operator contracts with an airframe maintenance provider to conduct base maintenance and such maintenance provider then subcontracts certain maintenance activities or functions to one or more of its subcontractors, the operator's monitoring would also ensure the contracted airframe maintenance provider is providing proper oversight of the relevant subcontractors.

1   Management and Control

1.1–1.2   (Intentionally open)

1.3   Maintenance Program

MNT 1.3.1

The Operator shall provide, for the use and guidance of relevant maintenance and operational personnel, a Maintenance Program that is, approved by the relevant Authority and contains information and data for each aircraft type/model and configuration in the Operator's fleet in accordance with specifications in Table 4.1. The Maintenance Program shall satisfy:

   (i)   Requirements of the State of Registry;

   (ii)   Requirements of the State of Design;

   (iii) Requirements of the Operator;

   (iv)   Maintenance specifications provided by the aircraft, engine and component OEMs. **(GM)**

Auditor Actions

☐   **Identified** an approved maintenance program for each aircraft type.

☐   **Interviewed** responsible manager(s).

☐   **Examined** selected maintenance program(s) (content in accordance with specifications in Table 4.1).

☐   **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Approved Maintenance Organization (AMO), State of Design and State of Registry.

An aircraft maintenance program is usually approved by the authority of the State of the Operator. However, when an operator utilizes an aircraft registered in a different state, it is possible that the maintenance program could be approved by the authority of the State of Registry.

An operator's authority typically holds the operator responsible for the definition the control and the provision of Maintenance Data and an Approved Maintenance Program for use by the operator and its maintenance organization.

The aircraft is maintained under one approved operator's aircraft maintenance program. When an operator wishes to change from one approved operator's aircraft maintenance program to another approved program, a transfer check/Inspection may need to be performed, as agreed with the Authority, in order to implement the change.

The operator's aircraft maintenance program contains a preface that defines the maintenance program contents, the inspection standards to be applied, permitted variations to task frequencies and, where applicable, any procedure to escalate established check/inspection intervals.

A reliability program provides an appropriate means of monitoring the effectiveness of the maintenance program. Maintenance program optimization relies on implementation of the reliability program.

Some approved operators' aircraft maintenance programs, not developed from the MRB Process, use reliability programs as the basis of the approval. The purpose of a reliability program is to ensure that the aircraft maintenance program tasks are effective and carried out at appropriate time intervals. Actions resulting from the reliability program may result in the escalation, addition or deletion of maintenance tasks, as deemed necessary.

The maintenance program typically contains the following information:

- The type/model and registration number of the aircraft, engines and, where applicable, auxiliary power units (APUs) and propellers;
- The name and address of the operator;
- The operator's reference identification of the program document, the date of issue and issue number;
- A statement signed by the operator to the effect the specified aircraft is maintained in accordance with the program and that the program is reviewed and updated as required;
- Contents/list of effective pages of the document;
- Check periods that reflect the anticipated utilization of the aircraft and where utilization cannot be anticipated, calendar time limits are included;
- Procedures for the escalation of established check periods, where applicable, and acceptable to the Authority;
- Provision to record date and reference to approved amendments incorporated in the program;
- Details of preflight maintenance tasks accomplished by maintenance personnel and not included in the Operations Manual for action by flight crew;
- The tasks and the periods (intervals/frequencies) at which each part of the aircraft, engines, APUs, propellers, components, accessories, equipment, instruments, electrical and radio apparatus and associated systems and installations are to be inspected, together with the type and degree of inspection;
- The periods when items are checked, cleaned, lubricated, replenished, adjusted and tested;
- Details of specific structural inspections or sampling programs;
- Details of the corrosion control program, when applicable;
- The periods and procedures for the collection of engine health monitoring data;
- The periods when overhauls and/or replacements by new or overhauled parts are to be made;
- A cross-reference to other documents approved by the Authority that contain the details of maintenance tasks related to mandatory life-limitations, Certification Maintenance Requirements (CMRs) and Airworthiness Directives (ADs);

  Note: *To prevent inadvertent variations to such tasks or intervals, these items would not be included in the main portion of the maintenance program document, or any planning control system, without specific identification of their mandatory status.*

- Details of, or cross-reference to, any required Reliability Program or statistical methods of continuous surveillance;
- A statement that practices and procedures to satisfy the program are to the standards specified in the Type Certificate Holder's Maintenance Instructions. When practices and procedures are included in a customized operator's maintenance manual approved by the Authority, the statement refers to this manual;
- Each maintenance task quoted is defined in the definitions section of the program;
- Statements that indicate the maintenance program meets all applicable instructions for continuing airworthiness developed by the Type Certificate Holder as issued or amended by the operator's reliability program, STC holders, DERs, ODAs and/or DOA;
- Statements that indicate changes or deviations from the Type Certificate Holder's Maintenance Instructions or OEM maintenance specifications are made in accordance with the operator's approved procedures.

An operator's approved aircraft maintenance programs are subject to periodic review to ensure they reflect current Type Certificate Holder's recommendations, revisions to the Maintenance Review Board Report and the mandatory requirements and maintenance needs of the aircraft. The operator reviews the detailed requirements at least annually for continued validity in light of the operating experience.

MNT 1.3.2

If the Operator utilizes seaplanes in a salt-water or other severe corrosion environment, the Operator shall have a process to ensure that the maintenance program incorporates corrosion inspection and prevention measures for engines and airframes that are adequate to the operating environment. These measures shall, at minimum, be in accordance with the manufacturer's recommendations, but shall be assessed and adjusted as necessary to meet the demands of the operating environment. **(GM)**

Auditor Actions

☐ **Identified** maintenance program (focus: maintenance schedule for corrosion detection and prevention measures).

☐ **Interviewed** responsible manager(s).

☐ **Examined** maintenance records and selected aircraft technical logs (focus: task cards and Instructions for Continued Airworthiness (ICAs) pertaining to corrosion prevention measures and inspections).

☐ **Examined** selected scheduled/planned maintenance tasks.

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure that the maintenance programs of seaplane operators follow the corrosion prevention and inspection programs prescribed by the manufacturer's maintenance manual, and that these measures are appropriate to the severity of the corrosion environment, particularly that of seaplanes operating in salt-water environments. Seaplane engines and airframes that are operated in salt-water environments are exposed to increased levels of corrosion, whether it's rusting of the airframe or sulfidation of hot-section components, and therefore require corrosion control programs specific to their needs.

Where the manufacturer does not provide specific guidance for seaplane operations in saltwater environments, typically these deleterious effects need to be mitigated with more robust preventative maintenance regimes. Maintenance practices such as regular internal and external engine washes and airframe inspections will increase dispatch reliability, increase operational safety, and allow maintenance providers to monitor the progression of corrosion to determine whether the preventative measures implemented are adequate.

Examples of such measures include:

- Use of a corrosion inhibitor on engine and airframe components;
- Regular borescope inspections;
- Regular turbine and compressor washes;
- • Regular external engine washes;
- • Daily freshwater rinses of the airframe.

Some of these measures are typically integrated into daily maintenance procedures. More invasive inspections can be scheduled in accordance with the corrosion severity of the operating environment.

Expanded guidance can be found in FAA Advisory Circular - AC 43-4B.

MNT 1.3.3

The Operator shall ensure amendments to the Maintenance Program:

(i) Are approved by the Authority unless the Operator has been approved to amend the Maintenance Program without requiring approval of the Authority;

(ii) Are furnished to all organizations and/or persons to whom the Maintenance Program has been issued.

Auditor Actions

☐ **Identified/Assessed** maintenance program (focus: defines processes for amendment approval and dissemination).

☐ **Identified** the organizations and/or persons to which the maintenance program(s) are issued.

☐ **Interviewed** responsible manager(s).

☐ **Examined** selected records of recent maintenance program amendments (focus: if applicable, approval by Authority; dissemination to all program users).

☐ **Other Actions** (Specify)

1.4–1.6 (Intentionally open)

1.7 Maintenance Management Manual (MMM)

MNT 1.7.1

The Operator shall have, for the use and guidance of relevant maintenance and operational personnel, a Maintenance Management Manual that is accepted or approved by the Authority. The MMM may be issued in separate parts and shall contain maintenance policies, procedures and information as specified in Table 4.3. The design of the manual shall observe Human Factors principles. **(GM)**

Auditor Actions

☐ **Identified/Assessed** the MMM.

☐ **Interviewed** responsible manager(s).

☐ **Examined the MMM** (regulatory approval/acceptance and content in accordance with specifications in Table 4.3).

☐ **Other Actions** (Specify)

Guidance

An MMM is a document that defines how an operator, through its AMO and all contracted AMOs, accomplishes and controls its aircraft maintenance activities. This document sets out:

* The description of the maintenance management system and its senior personnel;

* Each location where maintenance is carried out;

* The Approved Data for accomplishing aircraft maintenance;

* The procedures by which Engineering and Maintenance is managed.

The MMM provides all Engineering and Maintenance personnel with the necessary information to enable them to accomplish their duties and allow the Authority to understand and approve how the operator and its AMO comply with the applicable Airworthiness Requirements.

The MMM can comprise one manual or a suite of manuals. The MMM may have specific sections extracted to form a customized manual for distribution to maintenance contractors, line stations and others, as applicable.

The MMM can be a generic term for the MCM, QPM, MOM, QM, IPM, MME and others. The purpose of the MMM is to set forth the procedures, means and methods of the operator in fulfilling its maintenance responsibilities. Compliance with its contents assures fulfillment of the operator's maintenance responsibilities.

The management section in the MMM may be produced as a stand-alone document and made available to the key personnel required to be familiar with its contents.

Working procedures between the operator and AMO are established and may be produced as any number of separate procedures manuals and cross-referenced from the management part of the MMM. The list of AMO Certifying Personnel may be produced as a separate document.

Personnel from both the operator and the AMO are expected to be familiar with sections of the manuals that are relevant to the work they carry out.

Responsibilities and procedures for revisions to the management part of the MMM and any associated manuals are to be specified.

The Quality Manager of the operator is responsible for monitoring revisions to the MMM unless otherwise agreed by the Authority.

Unless the Authority has agreed via a procedure stated in the amendment section of the MMM that certain defined classes of amendments may be incorporated without prior Authority approval, this process includes monitoring revisions to the associated procedures manuals.

The MMM normally has at least the following four main parts to cover the items in Table 4.3:

- Organization and management;
- Maintenance procedures;
- Quality system procedures;
- Contracted maintenance procedures and paperwork.

The MMM also typically contains:

- An organization chart;
- Procedures to ensure:
    - Each aircraft operated is maintained in an airworthy condition;
    - The operational and emergency equipment necessary for an intended flight is serviceable;
    - The Certificate of Airworthiness of each aircraft operated remains valid.
- A description of the quality system;
- A description of the procedure for receiving, amending and distributing all necessary airworthiness data from the type certificate holder or type design organization;
- A statement signed by the operator confirming the MMM and any incorporated documents identified therein reflect the operator's means of compliance with the Authority requirements;
- A description of the MMM amendment control procedure;
- A means of identifying each page of the MMM. This can be in the form of a list of effective pages with each page numbered and either dated or marked with a revision number;
- A description of the system used to distribute the MMM, including a distribution list; for non-scheduled work, temporary copies of the relevant portions of the MMM, or any incorporated reference, may be sent via facsimile transmission;
- A detailed description of the procedures used to ensure that any maintenance tasks required by the maintenance schedule, airworthiness directives or any task required for the rectification of a defect are completed within the required time constraints;
- A description of the evaluation program required by these standards;
- A description of the defect rectification and control procedures, including details of:
    - The methods used to detect and report recurring defects;
    - The procedures for scheduling the rectification of defects whose repair has been deferred, if these procedures have not been incorporated into the MEL preamble.
- The procedures used to report service difficulties in accordance with these standards;
- A description of the technical dispatch procedures, including procedures for ferry-flight authorizations EDTO (equivalent terms ETOPS, EROPS, LROPS), all weather operation or any other special operation;
- A description of personnel records to be retained;
- A description of the procedure used to ensure the empty weight and balance of each aircraft is recorded in accordance with the applicable State of Registry/Authority requirements;
- Maintenance arrangements and a list of all such arrangements, including the procedure used to communicate to an approved maintenance organization the maintenance requirements for planned and unforeseen maintenance activities, as well as those mandated by airworthiness directives;

- Procedure for revising and maintaining the MMM up to date and current;
- Approval of the Authority through approval of the list of effective pages or, in the case of manuals containing a small number of pages, approval can be identified on each page.

MNT 1.7.2–1.7.5 (Intentionally open)

MNT 1.7.6

The Operator shall ensure a copy of the current version of the MMM, or relevant portions thereof, is promptly made available to:

(i)   Applicable authorities;

(ii)   Each organization or person that performs or certifies maintenance for the Operator;

(iii)   All other organizations or persons to whom the MMM has been issued.

Auditor Actions

☐ **Identified/Assessed** the process(es) for dissemination of the MMM.

☐ **Interviewed** responsible manager(s).

☐ **Examined** the distribution list for dissemination of the MMM.

☐ **Examined** selected records of MMM and amendment distribution(s) to organizations/persons that perform/certify maintenance.

☐ **Other Actions** (Specify)

2   Maintenance Control

2.1   Control System

MNT 2.1.1

The Operator shall have a maintenance control system that is in accordance with procedures acceptable to the Authority and ensures:

(i)   Each aircraft is maintained in an airworthy condition;

(ii)   Operational and emergency equipment necessary for flight is serviceable;

(iii)   The Certificate of Airworthiness of each aircraft remains valid.

Auditor Actions

☐ **Identified/Assessed** the system for control of aircraft maintenance.

☐ **Identified** the procedures for renewal of certificate of airworthiness (CoA).

☐ **Interviewed** responsible manager(s).

☐ **Examined** selected individual aircraft records for CoA.

☐ **Other Actions** (Specify)

2.2   Maintenance Planning

MNT 2.2.1

The Operator shall have a system for forecasting and tracking required maintenance activities.

Auditor Actions

☐ **Identified/Assessed** the system for forecasting and tracking required maintenance activities.

☐ **Interviewed** responsible manager(s).

☐ **Interviewed** maintenance scheduling/planning personnel.

☐ **Examined** selected scheduled/planned maintenance tasks.

☐ **Other Actions** (Specify)

2.3	Parts Installation

MNT 2.3.1

The Operator shall have a process to ensure that no new part is installed on an aeronautical product unless such part meets the standards of airworthiness applicable to the installation of new parts and in addition, meets a minimum any of the following:

    (i)   The new part has marking identifying it as a part specified in the type design conforming to a recognized national or international standard, or

    (ii)   The new part has been approved for use on an aeronautical product, in accordance with the type certificate/STC, if the part was originally designed and manufactured for non-aeronautical use, or

    (iii) The new part was manufactured under a Parts Manufacturer Approval (PMA), or

    (iv) The new part was produced by the Operator using approved procedures for the purpose of maintaining or alerting its own aeronautical product. **(GM)**

Auditor Actions

☐ **Identified/Assessed** the process for managing and controlling new parts and parts installation.

☐ **Interviewed** responsible manager(s).

☐ **Examined** selected parts installed on aircraft as new parts.

☐ **Observed** aircraft part/component installation/replacement (if applicable) (focus: new part/component being installed meets applicable standards of airworthiness).

☐ **Observed** aircraft parts/components management/handling (focus: control process for ensuring new parts meet applicable standards of airworthiness).

☐ **Other Actions** (Specify)

Guidance

The operator is responsible for providing an external AMO with approved documentation that contains information about parts allowed to be installed on its aircraft. Such documentation enables the external AMO to validate the airworthy condition of the part and its certification for installation on the aeronautical product being maintained. The "approved documentation" category typically includes as necessary, without being limited to, any of the following: MMM, IPC (including Supplements), AD, SB, Work Order, Repair Order, Form 8130-3/EASA Form 1/or equivalent.

The production of parts by an operator for its own use, as specified in item (iv), is acceptable provided there are approved procedures identified in the MMM.

MNT 2.3.2

The Operator shall have a process to ensure that no used part is installed on an aeronautical product unless such part meets the standards of airworthiness applicable to the installation of used parts and any of the following:

    (i)   An airworthy part that has been removed from an aircraft for immediate installation on another aircraft, **or**

    (ii)   An airworthy part that has undergone maintenance for which a maintenance release has been signed by an appropriately rated Approved Maintenance Organization (AMO);

    (iii) An airworthy part that has undergone an approved repair or alteration that restored the certificated level of airworthiness to a used part. **(GM)**

Auditor Actions

☐ **Identified/Assessed** the process for managing and controlling used parts and parts installation.

☐ **Interviewed** responsible manager(s).

☐ **Examined** selected parts installed on aircraft for certificates.

☐ **Observed** aircraft part/component installation/replacement (if applicable) (focus: new part/component being installed meets applicable standards of airworthiness).

□ **Observed** aircraft parts/components management/handling (focus: control process for ensuring new parts meet applicable standards of airworthiness).

□ **Observed** aircraft parts/components management/handling (focus: control process for ensuring used life-limited parts meet applicable standards of airworthiness).

□ **Other Actions** (Specify)

Guidance

The operator is responsible for providing an external AMO with approved documentation that contains information about parts allowed to be installed on its aircraft. Such documentation enables the external AMO to validate the airworthy condition of the part and its certification for installation on the aeronautical product being maintained. The "approved documentation" category typically includes as necessary, without being limited to, any of the following: MMM, IPC (including Supplements), AD, SB, Work Order, Repair Order, Form 8130-3/EASA Form 1/or equivalent.

MNT 2.3.3

The Operator shall have a process to ensure that no used life-limited part is installed on an aeronautical product unless such part meets the standards of airworthiness applicable to the installation of life-limited parts and:

(i) The technical history of the part is available to demonstrate the time in service, as authorized for that part in the type certificate governing the installation, has not been exceeded;

(ii) The technical history referred to in sub-paragraph (i) is incorporated into the technical record for the aeronautical product on which the part is installed. **(GM)**

Auditor Actions

□ **Identified/Assessed** the process for managing and controlling used life-limited parts and parts installation.

□ **Interviewed** responsible manager(s).

□ **Interviewed** personnel that execute procedures for tracking life-limited parts.

□ **Traced** the technical history of selected life-limited parts.

□ **Observed** aircraft part/component installation/replacement (if applicable) (focus: part/component being installed newly meets applicable standards of airworthiness).

□ **Other Actions** (Specify)

Guidance

The operator is responsible for providing an external AMO with approved documentation that contains information about parts allowed to be installed on its aircraft.

In general, it is best for an operator to have a fully traceable history for all life-limited parts. Not all parts have a fixed life. The life of some parts might be variable depending on the way the part has been used in the past. For example, load-bearing parts (e.g. landing gear components) that can be installed on different aircraft types (e.g. A319, A320, A321) will have a shorter life if installed on the heavier aircraft (as opposed to the same part installed on a lighter aircraft). Therefore, a complete history of these types of components is critical in knowing exactly when the life of the part will expire.

For parts that have a fixed life (e.g. batteries, slides), traceability to birth is not a requirement. However, in such cases, it is very important that the operator has documentation that shows clearly that the used part has not exceeded its airworthiness life limit.

2.4 Deferred Maintenance

MNT 2.4.1

The Operator shall have a maintenance control function that is responsible for approving, controlling, monitoring and scheduling non-routine and deferred maintenance activities, including MEL/CDL requirements.

Auditor Actions

☐ **Identified** the description of the maintenance control center (MCC) (or equivalent).

☐ **Interviewed** responsible manager(s).

☐ **Interviewed** personnel responsible for selected maintenance control functions.

☐ **Examined** maintenance control processes/procedures.

☐ **Other Actions** (Specify)

MNT 2.4.2

The Operator shall have a process to ensure deferred maintenance items (defects) are tracked and corrected within the required intervals prescribed by the MEL, CDL or the appropriate maintenance data. **(GM)**

Auditor Actions

☐ **Identified/Assessed** the process(es) for managing the MEL/CDL.

☐ **Interviewed** responsible manager(s).

☐ **Interviewed** MCC personnel.

☐ **Examined** selected records of MEL/CDL restricted items.

☐ **Traced** the tracking and correction of selected MEL/CDL restricted item(s).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure an operator has a process to rectify all defects affecting the safe operation of the aircraft within the limits prescribed by the approved MEL or CDL. Postponement of any defect rectification cannot typically be permitted without the operator's agreement and in accordance with a procedure approved by the State of Registry/Authority.

2.5 Continuing Airworthiness

MNT 2.5.1

The Operator shall have processes to:

(i) Obtain and assess continuing airworthiness information, including Airworthiness Directives (ADs), Alert Service Bulletins and recommendations from the organizations responsible for aircraft type design, and

(ii) Implement the resulting actions that are mandatory or considered necessary in accordance with procedures acceptable to the Authority. **(GM)**

Auditor Actions

☐ **Identified/Assessed** the process(es) for obtaining, assessing and implementing ADs and ASBs.

☐ **Interviewed** responsible manager(s).

☐ **Examined** selected records of AD and SB compliance, including Task Cards.

☐ **Traced** selected AD(s) and/or SB(s) from receipt to implementation.

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Authority, Service Bulletin (which includes the definition of Alert Service Bulletin) and Design Approval Holder (DAH).

Continuing airworthiness information and recommendations typically include:

- Airworthiness Directives that are developed by the Authority;
- Alert Service Bulletins, Airworthiness Limitations, maintenance planning and accomplishment instructions that are developed by the Type Design Organization(s) in accordance with their obligations as Design Approval Holder (DAH) for the respective product.

If improvements identified in the assessment process are considered by the operator as necessary to meet its safety and reliability needs, the current planning, accomplishment instructions, and/or airworthiness limitations may need to be adjusted through the implementation process.

MNT 2.5.2

The Operator shall have a process to monitor and assess maintenance and operational experience with respect to continuing airworthiness of aircraft of over 5,700 kg (12,566 lb) maximum certificated takeoff mass, as prescribed by the Authority. **(GM)**

Auditor Actions

☐ **Identified/Assessed** the process(es) for monitoring/assessing maintenance and operational experience in relation to continuing airworthiness.

☐ **Interviewed** responsible manager(s).

☐ **Interviewed** personnel that execute procedures that address continuing airworthiness.

☐ **Other Actions** (Specify)

Guidance

Aircraft continuing airworthiness is usually prescribed by the authority of the State of Registry. However, it is possible that continuing airworthiness instructions could be affected by the authority of the State of the Operator and/or the State of Design.

2.6   Repairs and Modifications

MNT 2.6.1

The Operator shall have a process to ensure all modifications and repairs:

(i)   Are carried out using approved data;

(ii)   Comply with airworthiness requirements of the Authority and State of Registry.

Auditor Actions

☐ **Identified/Assessed** the process(es) for managing modifications and repairs.

☐ **Identified/Assessed** the procedures for maintaining technical records of modifications and repairs.

☐ **Interviewed** responsible manager(s).

☐ **Examined** selected records of aircraft modification(s) and/or repair(s).

☐ **Observed** aircraft part/component installation/replacement (focus: installation/replacement accomplished using approved data/in accordance with regulations).

☐ **Observed** AD/SB management (focus: AD/SB process ensures modifications/repairs accomplished using approved data/in accordance with regulations).

☐ **Observed** line maintenance operations (focus: compare the repair status and the physical status of the aircraft/engine(s)/propeller(s) and their repaired components as applicable).

☐ **Other Actions** (Specify)

MNT 2.6.2

The Operator *should* implement maintenance modifications to ensure that all seaplanes are fitted with regular and emergency exits that allow rapid egress following a survivable collision with water, where such STCs or Service Bulletins are available for aircraft types utilized in its fleet. **(GM)**

Auditor Actions

☐ **Identified/Assessed** seaplane fleet requirements and available STCs or Service Bulletins for regular and emergency exit maintenance modification(s).

☐ **Interviewed** responsible manager(s).

☐ **Examined** Operator seaplane fleet (focus: regular and emergency exits and any maintenance modifications if applicable).

☐ **Examined** selected records of aircraft modification(s).

☐ **Other Actions** (Specify)

Guidance

Accident investigations of seaplane crashes have concluded that there is a high risk of drowning for occupants who survive the crash. Fatalities of seaplane crashes were often unable to exit the aircraft because they either could not access an emergency exit or reach a door handle, or because regular exits were jammed by the crash impact or blocked by flaps that were set in a take-off or landing position. These hazards are associated with several aircraft types, such as the C-185, C-206 and DHC-2, that are commonly used in seaplane operations.

The Canadian Transportation Board has made recommendations to seaplane operators based on these investigations. They include implementing modifications to doors and windows that facilitate post-crash egress in water by seaplane occupants.

Examples of available STC's include:

- For the Cessna 206: TCCA STC SA20-34, EASA STC 10074631, FAA STC SA04550NY;
- For the DHC-2 and DHC-2T: Service Bulletins V2/0003 and V2/0004.

Expanded guidance can be found in TSB Recommendation A11-05, Aviation Safety Study SA9401 and CASA 2011-03.

MNT 2.6.3

If the Operator utilizes seaplanes not equipped with front seat upper body restraints, the Operator shall implement maintenance modifications to ensure that upper body restraints/shoulder harnesses are installed for use by front seat occupants and pilots. **(GM)**

Auditor Actions

☐ **Identified/Assessed** upper body restraints/shoulder harnesses at seaplane front seat positions.

☐ **Interviewed** responsible manager(s).

☐ **Examined** selected records of aircraft modification(s) (focus: installation of upper body restraints in front seats, if applicable).

☐ **Examined** selected records of aircraft modification(s).

☐ **Other Actions** (Specify)

Guidance

Accident investigations of seaplane crashes have concluded that there is a high risk of drowning for occupants who survive the crash. Fatalities of seaplane crashes were often unable to exit the aircraft because they either could not access an emergency exit or reach a door handle, or because regular exits were jammed by the crash impact or blocked by flaps that were set in a take-off or landing position. These hazards are associated with several aircraft types, such as the C-185, C-206 and DHC-2, that are commonly used in seaplane operations.

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- For the DHC-2 and DHC-2T: Service Bulletins V2/0003 and V2/0004.

Expanded guidance can be found in TSB Recommendation A11-05, Aviation Safety Study SA9401 and CASA 2011-03.

2.7   Defect Recording and Control

MNT 2.7.1

The Operator shall have processes for defect recording and control, including the management of recurring defects, to address:

(i)   Tracking chronic or repetitive unserviceable items;

(ii)   Documenting troubleshooting history;

(iii)   Implementing instructions for corrective action;

(iv)   Ensuring rectification takes into account the methodology used in previous repair attempts.

Auditor Actions

☐   **Identified/Assessed** the process(es) for tracking and correcting chronic or repetitive unserviceable items.

☐   **Interviewed** responsible manager(s).

☐   **Interviewed** personnel that execute procedures that address chronic or repetitive unserviceable items.

☐   **Examined** corrective action records for selected chronic unserviceable items.

☐   **Traced** the process for developing corrective action for chronic unserviceable item(s).

☐   **Other Actions** (Specify)

3   Technical Records

3.1   Aircraft Maintenance Records

MNT 3.1.1

The Operator shall have a program to ensure the following maintenance records are maintained:

(i)   Total time in service (hours, calendar time and cycles, as appropriate), of the aircraft, engines and all life-limited components;

(ii)   Current status of compliance with all mandatory continuing airworthiness information;

(iii)   Appropriate details of modifications and repairs;

(iv)   Time in service (hours, calendar time and cycles, as appropriate), since last overhaul of the aircraft, engines or its components subject to a mandatory overhaul life;

(v)   Current aircraft status of compliance with the Maintenance Program;

(vi)   Detailed maintenance records to show that all requirements for signing of a maintenance release have been met. **(GM)**

Auditor Actions

☐   **Identified/Assessed** the maintenance records program.

☐   **Identified** the requirements for maintenance records that must be retained.

☐   **Interviewed** responsible manager(s).

☐   **Examined** selected maintenance records (focus: specified records are retained/maintained).

☐   **Observed** AD/SB management (focus: records system includes current status of AD/SB compliance, individual aircraft compliance).

☐   **Other Actions** (Specify)

Guidance

Contracted maintenance organizations are required to maintain detailed records, to include certification documents that support the issuance of a maintenance release. Such requirement is

typically specified in contractual arrangements, and implementation verified through oversight by the operator.

3.2 Aircraft Technical Log (ATL)

MNT 3.2.1

The Operator shall have a process to ensure all aircraft have an aircraft technical log (ATL) or approved equivalent that comprises elements specified in Table 4.6.

Auditor Actions

☐ **Identified** the process(es) for management of the ATL or approved equivalent.

☐ **Interviewed** responsible manager(s).

☐ **Examined** a minimum of one ATL (content in accordance with specifications in Table 4.6).

☐ **Coordinated** with FLT auditor (verify ATL is maintained for aircraft operations).

☐ **Other Actions** (Specify)

MNT 3.2.2

The Operator shall have processes for the management of the ATL or approved equivalent as specified in MNT 3.2.1 to ensure, with respect to the ATL or approved equivalent:

(i) Entries are current and cannot be erased or deleted;

(ii) Descriptions of errors or discrepancies that have been corrected remain readable and identifiable;

(iii) Entries are retained to provide a continuous record of the last six months of operations.

Auditor Actions

☐ **Identified/Assessed** the process(es) for management of the ATL or approved equivalent.

☐ **Examined** a minimum of one ATL.

☐ **Examined** selected ATL(s).

☐ **Other Actions** (Specify)

3.3 (Intentionally open)

3.4 Airworthiness Directives

MNT 3.4.1

The Operator shall maintain records of Airworthiness Directives (ADs) and Service Bulletins (SBs) or equivalents accomplished in accordance with the MMM.

Auditor Actions

☐ **Identified** the process(es) for maintaining records of AD and SB accomplishment.

☐ **Interviewed** responsible manager(s).

☐ **Examined** selected records of ADs and SBs that have been accomplished.

☐ **Other Actions** (Specify)

4   Maintenance Organizations

4.1   Approval

MNT 4.1.1

The Operator shall ensure an aircraft is not operated unless it is maintained and released to service by an Approved Maintenance Organization (AMO) that:

  (i)   Is acceptable to the Authority;

  (ii)   Has established procedures acceptable to the Authority to ensure maintenance practices are in compliance with all relevant requirements;

  (iii) Maintains the validity of its approval through compliance with the requirements for an approved maintenance organization acceptable to the Authority. **(GM)**

Auditor Actions

☐ **Identified/Assessed** the process(es) for the selection of AMOs.

☐ **Interviewed** responsible manager(s).

☐ **Examined** selected AMO selection records.

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Approved Maintenance Organization (AMO).

MNT 4.1.2   (Intentionally open)

MNT 4.1.3

The Operator shall ensure each maintenance organization that performs maintenance for the Operator has an approval document that contains, as a minimum:

  (i)   Name and location of the AMO;

  (ii)   Date of issue and period of validity of the approval;

  (iii) Scope of the approval. **(GM)**

Auditor Actions

☐ **Identified/Assessed** the requirement criteria for regulatory approval in the AMO selection process.

☐ **Interviewed** responsible manager(s).

☐ **Examined** selected AMO selection records.

☐ **Examined** selected AMO oversight/monitoring reports (focus: verifying mandatory information on AMO approval documents).

☐ **Other Actions** (Specify)

Guidance

The specification in item (iii) of this provision is satisfied by the operator ensuring that the AMO approval document contains the type and level of work required by the operator.

A repair station or Approved Maintenance Organization certificate is usually delivered with ratings in one or more of the following categories or their equivalents:

- Aircraft;
- Avionics;
- Engine;
- Propeller;
- Structure and Corrosion Protection Control Program;
- Component;
- Welding;
- NDT.

4.2 (Intentionally open)

4.3 Quality Assurance

MNT 4.3.1

The Operator shall ensure each maintenance organization that performs maintenance for the Operator has an independent quality assurance program that:

  (i)   Meets the specifications and control processes contained in Table 4.7;

  (ii) Monitors compliance with applicable regulations, requirements and the Maintenance Procedures Manual (MPM) of the AMO;

  (iii) Addresses the specific requirements of the Operator as specified in the maintenance agreement;

  (iv) Is under the sole control of the Quality Manager or the person assigned managerial responsibility for the program. **(GM)**

Auditor Actions

☐ **Identified/Assessed** the requirement criteria for a QA program in the AMO selection process.

☐ **Interviewed** responsible manager(s).

☐ **Examined** selected AMO selection records.

☐ **Examined** selected AMO oversight/monitoring reports. (focus: verifying AMO quality assurance programs meet all applicable requirements).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Maintenance Procedures Manual (MPM).

The primary objectives of the quality system are to enable the AMO to ensure it can deliver a safe product and remain in compliance with all requirements.

An essential element of the quality system is the independent audit. The independent audit is an objective process of routine sample checks of *all* aspects of the approved maintenance organization's ability to carry out all maintenance to the required standards. This process includes:

- Product sampling, as this is the end result of the maintenance process, which represents an objective overview of the complete maintenance-related activities; product sampling is intended to complement the requirement for certifying personnel to be satisfied that all required maintenance has been properly carried out before the issue of the certificate of release to service;

- A percentage of random audits carried out on a sample basis when maintenance is being carried out; random audits include audits done during the night for those organizations that work at night.

Another essential element of the quality system is the quality feedback system. The principal function of the quality feedback system is to ensure all findings resulting from the independent quality audits of the organization are properly investigated and corrected in a timely manner:

- Independent quality audit reports are sent to the relevant department(s) for rectification action proposing target rectification dates;
- Rectification dates are discussed with such department(s) before the quality department or nominated quality auditor confirms dates in the report;
- The relevant department(s) rectifies findings within agreed rectification dates and informs the quality department or nominated quality auditor of the completion of such rectifications.

The accountable executive is kept informed of any safety issues and the extent of compliance with authority requirements. The accountable executive also holds regular meetings with personnel to check progress on rectification. In large organizations such meetings may be delegated on a day-to-day basis to the quality manager, subject to the accountable executive meeting at least twice per year with the senior personnel involved to review the overall performance and receiving at least a half yearly summary report on findings of non-compliance.

All records pertaining to the independent quality audit and the quality feedback system are retained for at least two evaluation cycles after the date of closure of the finding to which they refer, or for such period as to support changes to the audit time periods, whichever is the longer.

Note: The quality feedback system may not be contracted to outside persons.

It is not intended that this QA Program be based on a system of end product inspection, but rather upon periodic verifications of all aspects of the systems and practices used for the control of maintenance to ensure compliance with regulations and with the operator's approved procedures.

The aim of the program is to provide an unbiased picture of the AMO's performance to verify that activities comply with the MPM and confirm that the systems and procedures described in the MPM remain effective and are achieving the AMO's requirements.

4.4   (Intentionally open)

4.5   Training Program

MNT 4.5.1

The Operator shall ensure each maintenance organization that performs maintenance for the Operator has a training program that requires all maintenance personnel to receive initial and recurrent training that is appropriate to individually assigned tasks and responsibilities, and provides maintenance personnel with:

(i)   Knowledge of regulations, standards and procedures in accordance with requirements in the MMM.

(ii)   Knowledge and skills related to human performance, including coordination with other maintenance personnel and/or flight crew.

Auditor Actions

☐ **Identified/Assessed** the requirement criteria for an overall training program in the AMO selection process.

☐ **Interviewed** responsible manager(s).

☐ **Examined** selected AMO selection records.

☐ **Examined** selected AMO oversight/monitoring reports.

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Human Factors Principles and Human Performance.

The intent of this provision is for the operator to ensure appropriate initial and recurrent training for maintenance personnel and to ensure such training takes into account the knowledge and skills specified.

Maintenance personnel receive training in human performance to promote an understanding of the human factors (e.g. human capabilities, limitations, and the interface(s) between human and system components) involved in performing maintenance duties and coordinating with other maintenance personnel and/or flight crew. These human factors are taken into account during training to reduce human error in maintenance activities, including activities performed by an external AMO.

4.6–4.8   (Intentionally open)

4.9   Procedures Manual

MNT 4.9.1

The Operator shall ensure each maintenance organization that performs maintenance for the Operator provides for the use and guidance of relevant maintenance personnel a Maintenance Procedures Manual (MPM), which may be issued in separate parts, that contains information, as specified in Table 4.9. **(GM)**

Auditor Actions

☐ **Identified/Assessed** the requirement criteria for an MPM in the AMO selection process.

☐ **Interviewed** responsible manager(s).

☐ **Examined** selected AMO selection records.

☐ **Examined** selected AMO oversight/monitoring reports.

☐ **Examined** MPM (if available).

☐ **Other Actions** (Specify)

Guidance

The MPM is a document that defines how an Approved Maintenance Organization accomplishes and controls its aircraft maintenance activities.

The MPM provides all personnel of the AMO with the necessary information to enable them to accomplish their duties and allows the Authority to understand and approve how the AMO complies with the applicable Airworthiness Requirements.

The MPM can comprise one manual or a suite of manuals. The MPM may have specific sections extracted to form a customized manual for distribution to maintenance contractors, line stations and others as applicable.

The purpose of the MPM is to set forth the procedures, means and methods for the AMO to accomplish maintenance. Compliance with its contents assures fulfillment of the AMO's responsibilities.

The management section in the MPM may be produced as a stand-alone document and made available to the key personnel who need to be familiar with its contents. The list of AMO Certifying Personnel may be produced as a separate document.

Responsibilities and procedures for revisions to the management part of the MPM and any associated manuals are to be specified.

The Quality Manager of the AMO is responsible for monitoring revisions of the MPM, unless otherwise agreed by the Authority.

Unless the Authority has agreed via a procedure stated in the amendment section of the MPM that certain defined classes of amendments may be incorporated without prior Authority approval, this process includes monitoring revisions to the associated procedures manuals.

The MPM also normally contains the following information:

- A brief description of the organization that includes:
  - The approximate size of the organization;
  - The geographic location of the office facilities and/or the base of operations, when not co-located;
  - Where necessary to ensure comprehension, a chart depicting the distribution of the functions.
- A statement signed by the maintenance organization confirming the MPM and any incorporated documents identified therein reflect the Organization's means of compliance with the Authority requirements;
- A description of the maintenance procedures and the procedures for completing and signing a maintenance release when maintenance is based on a system other than that of an approved maintenance organization;
- A description of the procedures for monitoring, assessing and reporting maintenance and operational experience;
- A description of procedures for assessing continuing airworthiness information and implementing any resulting actions;
- A description of the procedures for implementing action resulting from mandatory continuing airworthiness information;
- A description of procedures for ensuring that unserviceable items affecting airworthiness are recorded and rectified;
- A description of the procedures for advising the State of Registry/Authority/operator of significant in-service occurrences;
- A table of contents;
- A description of the MPM amendment control procedure;
- A means of identifying each page of the MPM. This can be in the form of a list of effective pages, with each page numbered and either dated or marked with a revision number;
- A description of the system used to distribute the MPM, including a distribution list; for non-scheduled work, temporary copies of the relevant portions of the MPM or any incorporated reference;
- Where the organization uses standards for the performance of elementary work or servicing different from those recommended by the manufacturer, the identification of those standards;
- Procedures to ensure regulatory information and technical data appropriate to the work performed are used in respect of elementary work and servicing;
- Details of the methods used to record the maintenance, elementary work or servicing performed, including the method of recording of defects in the technical record required by these standards;
- A detailed description of the procedures used to ensure that any maintenance tasks required by the maintenance schedule, airworthiness directives or any task required for the rectification of a defect are completed within the required time constraints;
- A description of the evaluation program required by these standards;

- A description of the defect rectification and control procedures, including details of:
  - The methods used to detect and report recurring defects;
  - The procedures for scheduling the rectification of defects whose repair has been deferred.
- The procedures used to report service difficulties in accordance with these standards;
- A description of the technical dispatch procedures, including procedures for ferry-flight authorizations, extended range operations (EDTO, ETOPS, EROPS, LROPS), all weather operation or any other special operation;
- Procedures to ensure that only parts and materials that meet the requirements of the State of Registry/Authority/operator are used in the performance of elementary work or servicing, including details of any spare part pool arrangements that have been entered into;
- A description of the methods used to ensure that the personnel authorized to perform elementary work or servicing are trained as required by the Authority and qualified in accordance with these requirements, as applicable;
- A description of personnel records to be retained;
- Details of the procedures applicable to maintenance arrangements and a list of all such arrangements, including the procedure used to communicate to an approved maintenance organization the maintenance requirements for planned and unforeseen maintenance activities, as well as those mandated by airworthiness directives;
- Procedure for revising and maintaining the MPM up to date and current;
- Approval of the Authority through approval of the list of effective pages or, in the case of manuals containing a small number of pages, approval can be identified on each page;
- Procedures used for the storage and control of petroleum, oil and other lubricants, as required by national regulations.

4.10   Maintenance Release

MNT 4.10.1

The Operator shall ensure each maintenance organization that performs maintenance for the Operator produces a completed and signed maintenance release that certifies all maintenance work performed has been completed satisfactorily and in accordance with the approved data and procedures described in the MPM of the maintenance organization. Such maintenance release shall include:

(i)   Basic details of the maintenance performed;

(ii)   A reference of the approved data used and, if required, the revision status;

(iii) Maintenance tasks that were not accomplished;

(iv) The date maintenance was completed;

(v)   When applicable, identity of the approved maintenance organization;

(vi) Identity of the person(s) that sign the release. **(GM)**

Auditor Actions

☐   **Identified** the requirement criteria for the production of the maintenance release in the AMO selection process.

☐   **Interviewed** responsible manager(s).

☐   **Examined** selected AMO selection records.

☐   **Examined** selected AMO oversight/monitoring reports.

☐   **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Maintenance Organization Exposition.

An operator has the option of defining when the revision status of approved data (that was used during the performance of maintenance) must be included in the maintenance release. The process that defines such requirement is typically documented in the operator's MMM.

A requirement for the documented revision status to be part of the maintenance release might depend on the particular approved data that is referenced. For example, if the Aircraft Maintenance Manual that was used for maintenance is distributed online, there would be an online record of the revision that was available at the time of maintenance, which might obviate the need for that information to be documented in the maintenance release. Conversely, the revision status of certain engineering documents and/or drawings might not be found online or be otherwise available, in which case the operator could opt to require the revision status to be included in the maintenance release for the purpose of ensuring traceability.

Aircraft CRS

A Certificate of Release to Service (CRS) is required before flight:

- At the completion of any maintenance package specified by the aircraft operator;
- At the completion of any defect rectification, while the aircraft operates flight services between scheduled maintenance.

The maintenance package may include any one or a combination of the following elements: a check or inspection from the operator's aircraft maintenance program, Airworthiness Directives, overhauls, repairs, modifications, aircraft component replacements and defect rectification.

New defects or incomplete maintenance work orders identified during maintenance are brought to the attention of the operator for the specific purpose of obtaining agreement to rectify such defects or complete the missing elements of the maintenance work order. In the case where the aircraft operator declines to have such maintenance carried out and provided this missing element/defect does not affect the airworthiness of the aircraft, this fact is entered in the aircraft CRS before issue of such certificate.

Component CRS

A CRS is necessary at the completion of any maintenance on an aircraft component while off the aircraft.

The authorized release certificate/airworthiness approval tag constitutes the aircraft component certificate of release to service when one AMO maintains an aircraft component for another AMO.

When an AMO maintains an aircraft component for use by the organization, an authorized release certificate/airworthiness approval tag may or may not be necessary, depending upon the organization's internal release procedures defined in the maintenance organization exposition and approved by the Authority.

4.11   Tooling and Calibration

MNT 4.11.1

The Operator shall have a process to ensure each maintenance organization that performs maintenance for the Operator has procedures to control and document the calibration and records of all tools, including personnel-owned tools, and preventing out-of-service and due-for-calibration tools and equipment from being used, in accordance with specifications in Table 4.10. **(GM)**

Auditor Actions

☐ **Identified/Assessed** the requirement criteria for the tool calibration in the AMO selection process.

☐ **Interviewed** responsible manager(s).

☐ **Examined** selected AMO selection records.

☐ **Examined** selected AMO oversight/monitoring reports.

☐ **Observed** maintenance outsourcing management (focus: process for verifying acceptable AMO tool calibration program).

☐ **Other Actions** (Specify)

Guidance

The control of these tools and equipment requires that the organization has a procedure to inspect/service and, where appropriate, calibrate such items on a regular basis and indicate to users that the item is within any inspection or service or calibration time limit. A clear system of labeling of all tooling, equipment and test equipment is therefore necessary, providing information on:

- When the next inspection or service or calibration is due;
- Whether the item is serviceable or unserviceable and the reason for its unserviceability.

A register is maintained for all precision tooling and equipment together with a record of calibrations and standards used.

Inspection, service or calibration of tools and equipment on a regular basis is in accordance with the equipment manufacturer's instructions except where the maintenance organization can justify by means of results that a different time period is appropriate in a particular case.

The procedural approach complies with the applicable standards of the authority (e.g. US Bureau of Standards or a country's approved standards certificate from the testing facility).

Table 4.1–Maintenance Program Specifications
The Operator's Maintenance Program shall contain the following information for each aircraft:

    (i)   Maintenance tasks and the intervals at which these tasks are to be performed, taking into account the anticipated utilization of the aircraft;

    (ii)   When applicable, a continuing structural integrity program;

    (iii)   A system that identifies mandatory maintenance tasks, and their corresponding intervals, for tasks that have been specified as mandatory in the approval of the type design, (i.e. Certification Maintenance Requirements or CMRs);

    (iv)   Procedures for changing or deviating from (i), (ii) and (iii) above;

    (v)   The reliability program and descriptions of any required health monitoring for aircraft, engines, propellers and associated parts where the maintenance program was derived using the Maintenance Review Board process;

    (vi)   The procedure for periodic review of the Maintenance Program to ensure it considers current Type Certificate Holder's recommendations, revisions to the Maintenance Review Board Report, mandatory requirements and other applicable requirements from the Authority.

Table 4.2–(Intentionally open)

Table 4.3–Maintenance Management Manual Content Specifications
The MMM shall contain the following maintenance policies, procedures and information:

   (i)   A description of the administrative arrangements between the operator and the approved maintenance organization;

   (ii)   Names and duties of the person or persons whose responsibilities are to ensure that maintenance is carried out in accordance with the MMM;

   (iii)   A description of aircraft types and models to which the manual applies;

   (iv)   A description of the maintenance procedures and the procedures for completing and signing a maintenance release when maintenance is based on a system other than that of an approved maintenance organization;

   (v)   A reference to the approved maintenance program;

   (vi)   A description of the methods used for the completion and retention of maintenance records, and including procedures for retaining back-up records;

   (vii)   A description of the procedures for monitoring, assessing and reporting maintenance and operational experience;

   (viii)   A description of the procedures for complying with the service information reporting requirements;

   (ix)   A description of procedures for assessing continuing airworthiness information and implementing any resulting actions;

   (x)   A description of the procedures for implementing action resulting from mandatory continuing airworthiness information;

   (xi)   A description of establishing and maintaining a system of analysis and continued monitoring of the performance and efficiency of the maintenance program, in order to improve and correct any deficiency in that program;

   (xii)   A description of procedures for ensuring that unserviceable items affecting airworthiness are recorded and rectified;

   (xiii)   A description of the procedures for advising the Authority of significant in-service occurrences;

   (xiv)   The scope, structure and functionality of the management system for maintenance operations, to include a description of departments, positions, authorities, duties, responsibilities and the interrelation of functions and activities within the system;

   (xv)   A process to ensure all amendments to the MMM are approved by the Authority and/or Operator, as applicable;

   (xvi)   A description of the procedures to ensure operational and emergency equipment necessary for flight is serviceable;

   (xvii)   A description of the procedures to ensure the Certificate of Airworthiness of each aircraft remains valid;

   (xviii)   A description of the duties, responsibilities and reporting relationships within the Quality Assurance Program, or a reference to a separate quality assurance manual, if such description is found in that manual.

Table 4.4 and 4.5–(Intentionally open)

Table 4.6–Aircraft Technical Log (ATL) Specifications
The Operator shall have a process to ensure all aircraft have an aircraft technical log (ATL) or approved equivalent that comprises the following elements: (i)   Aircraft nationality and registration; (ii)   Date; (iii) Place of departure; (iv) Place of arrival; (v)   Time of departure; (vi) Time of arrival; (vii) Hours of flight; (viii) Incidents, observations, as applicable; (ix) Details of defects and rectifications/actions taken; (x)   Signature and identity of the person recording the defect; (xi) Signature and identity of the person signing the release following maintenance**.

**The signature and identity shall: (1) be traceable to the individual making the entry; and (2) satisfy the requirements specified in the aircraft release to service procedure of the MMM (i.e. be either a handwritten or electronic signature system or company controlled stamp identity system, as approved by the Authority).

Table 4.7–Quality Assurance Program Specifications and Control Processes
The Operator shall ensure each maintenance organization that performs maintenance for the Operator has an independent Quality Assurance Program that includes the following elements:

(i) An internal audit/evaluation program;

(ii) An established audit schedule that ensures all applicable regulations, requirements and technical activities described within the MPM of the AMO are checked on established intervals, as described in the MPM;

(iii) A record of audit findings and corrective and/or preventive actions;

(iv) Follow-up procedures to ensure necessary corrective/preventive actions (both immediate and long term) implemented by the Maintenance Organization are effective;

(v) A record-keeping system to ensure details of evaluation findings, corrective actions, preventive actions and follow-up are recorded, and that the records are retained for two complete evaluation cycles.

Table 4.8–(Intentionally open)

Table 4.9–Maintenance Procedures Manual Content Specifications

The Operator shall ensure each maintenance organization that performs maintenance for the Operator provides for the use and guidance of relevant maintenance personnel a Maintenance Procedures Manual (MPM), which may be issued in separate parts, that contains the following information:
 	
(i)   A brief description of the organization that includes:
 	
      (a) A general description of the scope of work authorized under the organization's terms of approval;
 	
      (b) A general description of the organization's facilities.
 	
(ii)   A description of the procedures for implementing changes affecting the approval of the maintenance organization;
 	
(iii) A description of the organization procedures and quality or inspection system;
 	
(iv) Names and duties of the responsible personnel;
 	
(v)   Names and duties of the person or persons whose responsibilities are to ensure that maintenance is carried out in accordance with the MPM;
 	
(vi) A description of the procedures used to establish the competence of maintenance personnel;
 	
(vii) A description of the methods used for the completion and retention of the Operator's maintenance records, including procedures for retaining back-up records;
 	
(viii) A description of the procedure for preparing the maintenance release and the circumstances under which the release is to be signed;
 	
(ix) The process for authorizing personnel to sign the maintenance release and the scope of their authorization;
 	
(x)   A description of any additional procedures for complying with the Operator's maintenance procedures and requirements;
 	
(xi) A description of the procedures for complying with the service information reporting requirements;
 	
(xii) A description of the procedure for receiving, amending and distributing within the maintenance organization, all necessary airworthiness data from the type certificate holder or type design organization;
 	
(xiii) A description, when applicable, of contracted activities.

Table 4.10–Tooling and Calibration Program Specifications

The Operator shall ensure each maintenance organization that performs maintenance for the Operator has procedures to control and document the calibration and records of all tools, including personnel-owned tools, and preventing out-of-service and due-for-calibration tools and equipment from being used. The procedures shall include the following elements:
 	
    (i)   Calibration date;
 	
    (ii)   Identity of individual or vendor that performed calibration or check;
 	
    (iii) Calibration due date;
 	
    (iv) A calibration certificate for each item calibrated by an outside agency;
 	
    (v)   Details of adjustments and repairs;
 	
    (vi) Repair history of the tool;
 	
    (vii) The part number and serial number of the standard used to perform the calibration.

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Section 5 — Cabin Operations (CAB)

Applicability

Section 5 addresses the safety and security requirements associated with the passenger cabin. This section is applicable to a seaplane or amphibian operator that conducts passenger flights with cabin crew.

If a seaplane or amphibian operator conducts *all* passenger flights without cabin crew in this case this section is not applicable for that operator.

Individual CAB provisions or sub-specifications within a CAB provision that:

- Begin with a conditional phrase "If the Operator..." are applicable if the Operator meets the condition(s) stated in the phrase.
- Begin with a conditional phrase "If the Operator conducts passenger flights with or without cabin crew…" are applicable if the Operator conducts passenger flights without cabin crew.

Where an operator outsources the performance of cabin operations functions to external service providers, the operator retains overall responsibility for such functions, and must demonstrate processes for monitoring applicable external service providers in accordance with ORG 2.2.1 located in Section 1 of this manual.

General Guidance

Definitions of technical terms used in this manual, as well as the meaning of abbreviations and acronyms, are found in the IATA Reference Manual for Audit Programs (IRM).

Refer to the IATA Cabin Operations Best Practices Guide for practical information and guidance related to cabin safety policies and procedures, (http://www.iata.org/publications/Pages/cabin-safety-guide.aspx).

1	Management and Control

1.1–1.5	(Intentionally open)

1.6	Operations Manual

CAB 1.6.1

If the Operator conducts passenger flights with cabin crew, the Operator shall have an Operations Manual (OM), which may be issued in separate parts, that contains the policies, procedures and other guidance or information necessary for cabin crew members to perform their duties and be in compliance with applicable regulations, laws, rules and Operator standards. The content of the OM shall be in accordance with specifications in Table 5.1. **(GM)**

Auditor Actions

☐ **Identified/Assessed** cabin OM or, if applicable, separate documents that comprise the OM.

☐ **Interviewed** responsible management representative(s).

☐ **Examined** selected sections or parts of the cabin OM.

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Practical Manual.

The complete content of the OM for cabin operations may be issued in more than one document or manual. For example, an operator might choose to issue a practical manual, which would be a controlled document and considered part of the OM. A practical manual, which might be referred to as a quick reference handbook (QRH), typically comprises checklists and other selected information and material taken directly from the OM, and is utilized by cabin crew members in performing onboard duties and procedures during normal, abnormal and/or emergency operations.

Likewise, whereas the operational and training areas of cabin operations specified in Table 5.1 are all included in the OM, they are typically issued in separate documents. For example, the cabin crew training program (item vii) might be outlined in a training document, while policies, procedures, checklists are specified in operational documents.

2   Training and Qualification

2.1   Training Program

CAB 2.1.1

If the Operator conducts passenger flights with cabin crew, the Operator shall have a cabin crew training program, approved or accepted by the Authority that ensures cabin crew members understand their responsibilities and are competent to perform the duties and functions associated with cabin operations. The cabin crew training program shall also, as minimum, address:

(i)   Initial qualification;

(ii)   Continuing qualification;

(iii)   Re-qualification;

(iv)   If applicable, aircraft transition or conversion;

(v)   If applicable, other specialized training requirements;

Auditor Actions

☐   **Identified/Assessed** requirement for specified training/qualification courses applicable to each aircraft type in cabin crew training/evaluation program.

☐   **Interviewed** responsible manager(s) in cabin operations.

☐   **Examined** training/qualification course curriculum (focus: inclusion of applicable training/qualification courses).

☐   **Examined** training/qualification records of selected cabin crew members (focus: completion of applicable training/qualification courses).

☐   **Other Actions** (Specify)

CAB 2.1.2

If the Operator conducts passenger flights with cabin crew, the Operator shall ensure all cabin crew members complete an initial training course:

(i)   As part of the cabin crew qualification process for individuals who have not previously been qualified as a cabin crew member for the Operator;

(ii)   Prior to being assigned duties as a cabin crew member.

Auditor Actions

☐   **Identified/Assessed** requirements for completion of initial training by cabin crew members.

☐   **Interviewed** responsible manager(s) in cabin operations.

☐   **Examined** records of initial training of selected cabin crew members.

☐   **Other Actions** (Specify)

CAB 2.1.3

If the Operator conducts passenger flights with cabin crew, the Operator shall ensure all cabin crew members complete a recurrent training course once every 12 months in order to remain qualified to perform duties as a cabin crew member. **(GM)**

Auditor Actions

☐ **Identified/Assessed** requirements for completion of recurrent training by cabin crew members.

☐ **Interviewed** responsible manager(s) in cabin operations.

☐ **Examined** records of recurrent training of selected cabin crew members.

☐ **Other Actions** (Specify)

Guidance

An operator typically has a process that tracks qualification requirements to ensure cabin crew members complete recurrent training in a timely manner to remain qualified.

The nominal cycle for the completion of the recurrent training course by each cabin crew member is 12 months and, during that period, each cabin crew member receives training in the subject areas applicable to the course for that 12-month period.

As a means of ensuring flexibility in the scheduling process, in some regulatory jurisdictions an operator may be permitted to increase the maximum cycle for the completion of recurrent training by cabin crew members up to 15 months with no change to the original training anniversary date of each cabin crew member. Such flexibility, however, would not alter the requirement for a basic 12-month recurrent training cycle for cabin crew members.

In the event a cabin crew member becomes unqualified for any reason (e.g., extended leave of absence), completion of re-qualification training would establish a new anniversary date (superseding the original anniversary date) upon which recurrent training would be based.

CAB 2.1.4   (Intentionally open)

CAB 2.1.5

If the Operator conducts passenger flights with cabin crew, the Operator shall have aircraft type training, which shall be completed by cabin crew members as part of the process to qualify and remain qualified to perform cabin crew duties on each type of aircraft to which they may be assigned. As a minimum, subjects covered under aircraft type training shall include:

(i)   Aircraft systems;

(ii)   Exit locations and operation;

(iii)   Emergency equipment locations and operation;

(iv)   Emergency assignments;

(v)   Unique features of the aircraft cabin (as applicable for variants of a common aircraft type). **(GM)**

Auditor Actions

☐ **Identified/Assessed** requirements for completion of aircraft type training by cabin crew members.

☐ **Interviewed** responsible manager(s) in cabin operations.

☐ **Examined** course syllabus for aircraft type training of cabin crew members.

☐ **Examined** records of aircraft type training of selected cabin crew members.

☐ **Other Actions** (Specify)

Guidance

An aircraft type training course for cabin crew members would include the description, locations and operation of an aircraft and its equipment.

Instruction in aircraft systems typically includes:

• Aircraft interior, passenger seats and restraints;

• Crew member seats and restraints;

• Aircraft-specific duties and responsibilities;

- Galley systems;
- Communication systems;
- Lighting systems;
- Oxygen systems.

Instruction on exit locations and operation addresses the types of exits on an aircraft.

Instruction on emergency equipment locations and operation addresses slides, rafts, slide/rafts, ramp slide/rafts, life jackets and other flotation devices.

Sub-specification (iv): The term "emergency assignments" refers to specific duties assigned to cabin crew members during emergency situations.

A process, in accordance with requirements of the Authority, would be utilized to qualify cabin crew members that concurrently operate aircraft of different types or operate variants within one aircraft type. The qualification process would typically address the differences between variants or types.

CAB 2.1.6   (Intentionally open)

3   Line Operations

3.1   (Intentionally open)

3.2   Cabin Crew Policies and Procedures

CAB 3.2.1   (Intentionally open)

CAB 3.2.2

If the Operator conducts passenger flights with cabin crew, the Operator shall have procedures to ensure a coordinated and expeditious cabin evacuation during aircraft fueling operations with passengers embarking, on board or disembarking. As a minimum, procedures shall require:

  (i)   Cabin exits are designated for rapid deplaning or emergency evacuation, and routes to such exits are unobstructed;

  (ii) The area outside designated emergency evacuation exits is unobstructed;

  (iii) One cabin crew member or other qualified person is positioned by the boarding door(s);

  (iv) Means of communication are established among cabin crew members and with passengers;

  (v)   A suitable method of communication is established between qualified persons in a position to monitor passenger safety and personnel that have responsibility for fueling operations. **(GM)**

Auditor Actions

☐   **Identified** the specified procedures for cabin evacuation during aircraft fueling operations with passengers embarking, on board or disembarking.

☐   **Interviewed** responsible manager(s) in cabin operations.

☐   **Interviewed** cabin crew personnel.

☐   **Other Actions** (Specify)

Guidance

During fueling operations with passengers on board the aircraft, the designation of exits for rapid deplaning or evacuation takes into account various factors, which would typically include:

- Aircraft type (e.g. some aircraft types might require the designation of over-wing exits for evacuation);
- Number of cabin crew members on board;
- The method being utilized for passenger boarding and/or deplaning (e.g. boarding bridge, air stairs);

- Exterior obstructions (e.g. catering vehicle) that might render an exit unusable for an emergency evacuation;
- Interior obstructions (e.g. catering trolley) that might block the route to one or more emergency evacuation exits.

Cabin crew procedures ensure a method of communication is established.

- Among cabin crew members positioned throughout the cabin for the purpose of coordination should a passenger evacuation be required (when more than one cabin crew member is required to be onboard);
- Between the cabin crew and passengers (one way) for the purpose of providing instructions should a passenger evacuation be required;
- Between the cabin crew and the flight crew (when the flight crew is onboard) for the purpose of ensuring notification when fueling operations are in progress and when a passenger evacuation is required;
- Between the cabin crew and the flight crew and/or ground handling personnel for the purpose of ensuring notification when fueling operations must be discontinued for any reason.

Table 5.1–Operations Manual Content Specifications

The content of the Operations Manual shall address the following areas of cabin operations:
 	
(i)   Compliance or conformity with:
      (a) Applicable laws, regulations and rules;
      (b) Standard operating procedures for each phase of flight.
(ii)   Administration of first aid, to include guidelines for:
      (a) Life threatening medical emergencies;
      (b) Cardiopulmonary resuscitation (CPR);
      (c) Injuries and illnesses;
      (d) Use of medical equipment (e.g. Automatic External Defibrillator, if applicable).
(iii) Response to emergency, abnormal and suspected security situations:
      (a) Aircraft emergency evacuation;
      (b) Cabin decompression, if applicable;
      (c) Onboard fires, smoke and fumes;
      (d) Emergency landing;
      (e) Leakage or spillage of suspected dangerous goods;
      (f) Suspected bomb or explosives, least risk bomb locations (specific to aircraft type);
      (g) Cabin search;
      (h) Hijacking or unlawful intervention.
(iv) Use of cabin systems and equipment, to include malfunctions:
      (a) Oxygen systems, if applicable;
      (b) Communication systems;
      (c) Entry and exit doors;
      (d) Lifesaving equipment;
(v)   Dangerous goods manual or parts relevant to the cabin crew, to include:
      (a) Dangerous goods prohibited in passenger and crew baggage;
      (b) Information/instructions for dangerous goods permitted in passenger and crew baggage;
      (c) Action to be taken in the event of an emergency.
(vi) Use of emergency, survival equipment;
(vii) Cabin crew training program:
      (a) Abnormal and emergency situations, emergency evacuation;
      (b) Use of emergency and lifesaving equipment;
      (c) Lack of oxygen, loss of pressurization (as applicable);
      (d) Other cabin crew member assignments and functions;
      (e) Dangerous goods;
      (f) Human performance.
(viii) Limitations pertaining to flight time, flight duty periods and rest periods.

Section 6 — Ground Handling Operations (GRH)

Applicability

Section 6 addresses functions within the scope of ground handling operations and is applicable to an operator that conducts passenger, cargo and/or combi (combined cargo and passenger) aircraft operations.

Individual GRH provisions or sub-specifications within GRH provision that:

- Begin with a conditional phrase ("If the Operator...") are applicable if the operator meets the condition(s) stated in the phrase.
- Do not begin with a conditional phrase are applicable unless determined otherwise by the Auditor.

Functions within the scope of ground handling operations include:

- Passenger handling
- Baggage handling
- Aircraft handling and loading
- Dock operations – catching, securing, and releasing aircraft during arrivals and departures
- Positioning and securing aircraft at the dock
- Aircraft fueling
- Aircraft de-/anti-icing (if applicable to operating environment)
- Cleaning aircraft

In this section, non-revenue cargo and mail are addressed in the same way as revenue cargo for the purposes of handling, loading, securing and transporting. COMAT is non-revenue cargo.

Note: Dock operations shall include any seaplane ground handling activities applicable to the facilities used by the Operator, including floating or fixed platforms, moorings, or beaches.

For the purpose of addressing cargo in this section, mail is considered to be an item of cargo. Therefore, any reference to cargo also includes mail.

Where an operator outsources the performance of functions within the scope of ground handling operations to external service providers, the operator retains overall responsibility for such functions, and must demonstrate processes for monitoring the applicable external service providers in accordance with ORG 2.2.1 located in Section 1 of this manual.

General Guidance

Definitions of technical terms used in this ISSM Section 6, as well as the meaning of abbreviations and acronyms, are found in the IATA Reference Manual for Audit Programs (IRM).

△ Procedures used in ground operations are defined in the IATA Ground Operations Manual (IGOM), IATA Airport Handling Manual (AHM), IATA Dangerous Good Regulations (DGR) and in other relevant IATA publications.

Due to revision cycle differences, the IATA documents cited above are typically revised at various times during the effective period of an ISSM edition. Accordingly, when an IATA document is revised, it could render an existing reference to specific information in an IATA document to be in error. In such case, the revised IATA document would have to be searched to find the specific information referenced.

1   Management and Control

1.1–1.5   (Intentionally open)

1.6   Operational Manuals

GRH 1.6.1

The Operator shall have an Operations Manual, which may be issued in separate parts, that contains the operational policies, processes, procedures and other information necessary for ground handling personnel to perform their duties and be in compliance with applicable regulations, laws, rules and standards of the Operator. **(GM)**

Auditor Actions

☐   **Identified/Assessed** ground handling OM or, if applicable, separate documents that comprise the OM.

☐   **Interviewed** responsible management representative(s).

☐   **Examined** selected sections or parts of the ground handling OM (focus: policies, processes, procedures used by ground handling personnel are included).

☐   **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Operations Manual (OM).

An OM typically includes guidance that addresses areas generic to all functions within the scope of ground handling operations, as well as parts of the manual that are specific to individual operational functions.

Because the scope of ground handling operations is broad and varies by operator, rather than publishing one OM just for ground handling, a smaller operator might choose to incorporate the relevant information into a larger, comprehensive OM.

An operator could also choose to issue the information in separate documents that are each specific to the various ground handling operational functions (e.g. passenger handling, baggage handling, aircraft handling). Each individual document would typically contain generic guidance that is applicable to all ground handling operational functions (e.g., organizational policies, general definitions), as well as guidance that is specific to the particular ground handling function or office location (e.g., process descriptions, standard operating procedures, references to the appropriate regulations and IATA manuals).

If an operator has external organizations conduct ground handling operations functions, such operator would then be expected to have a monitoring and control process to ensure each external organization either uses the OM of the operator or has its own published OM that fulfills operational safety, security and quality requirements of the operator.

2   Training and Qualification

2.1   Training Program

GRH 2.1.1

The Operator shall have a process to ensure personnel who perform operational duties in functions within the scope of ground handling operations for the Operator, to include personnel of external service providers, complete:

(i)   *Initial training* prior to being assigned to perform such operational duties;

(ii)   *Recurrent training* on a frequency in accordance with requirements of the regulatory authority but *not less than once during every 36-month period* except recurrent training in dangerous goods as specified in GRH 2.2.1 or GRH 2.2.2;

(iii)   Re-qualification training applicable to personnel that become unqualified for any reason, prior to being reassigned to perform operational duties. **(GM)**

Auditor Actions

☐ **Identified/Assessed** training program for ground handling personnel (focus: ensures completion of initial/recurrent training for personnel in all ground handling functions; includes processes that ensure personnel of external service providers complete initial/recurrent training).

☐ **Interviewed** responsible manager(s) in ground handling operations.

☐ **Examined** selected initial/recurrent course curricula/syllabi (focus: includes initial and recurrent training programs for all personnel that perform ground handling duties/functions).

☐ **Examined** initial and recurrent training records of selected personnel (focus: completion of initial and recurrent training).

☐ **Examined** requalification training records of selected personnel (focus: completion of requalification training).

☐ **Other Actions** (Specify).

Guidance

Refer to the Applicability box at the beginning of this section for the functions within the scope of ground handling operations.

Requirements for initial and recurrent training apply to all operational ground handling personnel who perform duties within the scope of ground handling operations.

2.2   Program Elements

GRH 2.2.1

If the Operator transports dangerous goods as cargo, the Operator shall have a process to ensure ground handling personnel complete dangerous goods training, to include *initial training* and *recurrent training* within 24 months of previous training in dangerous goods. Such training shall be completed by personnel that perform operational duties in the following functions within the scope of ground handling operations:

(i)   Passenger handling;

(ii)   Baggage handling;

(iii)   Aircraft loading;

(iv)   Load control. **(GM)**

Auditor Actions

☐ **Identified/Assessed** dangerous goods training program (focus: defines DG training requirements for all cargo handling personnel based on specific assigned responsibilities/duty functions).

☐ **Interviewed** responsible manager(s) in ground handling operations.

☐ **Examined** applicable initial/recurrent dangerous goods training curricula and syllabi (focus: subject areas appropriate for personnel based on specific responsibilities/duty functions).

☐ **Examined** training records of selected personnel (focus: completion of required training as appropriate for assigned responsibilities/duty functions).

☐ **Other Actions** (Specify)

Guidance

Recurrent training in dangerous goods is completed within a validity period that expires 24 months from the previous training to ensure knowledge is current, unless a shorter period is defined by a competent authority. However, when such recurrent training is completed within the final 3 months of the 24-month validity period, the new validity period may extend from the month on which the recurrent training was completed until 24 months from the expiry month of the current validity period. If such recurrent training is completed prior to the final three months of the validity period, the new validity period would extend 24 months from the month the recurrent training was completed.

The curriculum for dangerous goods training for ground handling personnel will vary depending on specific responsibilities and duty function(s), but will typically address:

- General philosophy;
- Limitations;
- List of dangerous goods;
- Labeling and marking;
- Recognition of undeclared dangerous goods;
- Storage and loading procedures;
- Flight crew notification;
- Provisions for passengers and crew;
- Emergency procedures.

Refer to DGR 1.5 (Table 1.5.A, Minimum Requirements for Training Curricula) and/or DGR Appendix H for detailed guidance that addresses dangerous goods training and subjects applicable to specific ground handling functions.

GRH 2.2.2

If the Operator does *not* transport dangerous goods, the Operator shall have a process to ensure ground handling personnel receive dangerous goods training, to include *initial training* and *recurrent training* within 24 months of previous training in dangerous goods. Such training shall be completed by personnel that perform operational duties in the following functions within the scope of ground handling operations:

(i)   Passenger handling;
(ii) Baggage handling;
(iii) Aircraft loading;
(iv) Load control. **(GM)**

Auditor Actions

☐ **Identified/Assessed** dangerous goods training program: (focus: defines DG training requirements for all cargo handling personnel based on specific assigned responsibilities/duty functions).

☐ **Interviewed** responsible manager(s) in ground handling operations.

☐ **Examined** selected initial/recurrent training curricula/syllabi (focus: subject areas appropriate for personnel based on specific responsibilities/duty functions).

☐ **Examined** training records of selected personnel (focus: completion of required training as appropriate for assigned responsibilities/duty functions).

☐ **Other Actions** (Specify)

Guidance

When an operator does not transport dangerous goods as cargo (i.e. a "no-carry" operator), dangerous goods training is still required for ground handling personnel to ensure prohibited dangerous goods are recognized and are not loaded onto an aircraft.

Dangerous goods training would be structured to provide the requisite knowledge to permit ground handling personnel to recognize prohibited dangerous goods (whether labeled or not labeled), ensure such dangerous goods are not inadvertently loaded on an aircraft and apply emergency action in the event of contamination or a spill.

The curriculum for dangerous goods training is determined by the operator and may vary depending on specific responsibilities and duty function(s).

Refer to DGR 1.5 (Table 1.5.B, Minimum Requirements for Training Curricula for "No-carry" Operators) and/or DGR Appendix H for detailed guidance that addresses dangerous goods training and subjects applicable to specific ground handling functions.

3   Ground Handling Operations

3.1   (Intentionally open)

3.2   Airside Operations

GRH 3.2.1

The Operator shall have safety procedures that are implemented during the conduct of all of its dock operations, to include, but not limited to, aircraft arrival and departure, passenger embarkation and disembarkation, securing of aircraft, starting of engines, and hazards to passengers and ground crew. **(GM)**

Note: Dock operations shall include any seaplane ground handling activities applicable to the facilities used by the Operator, including floating or fixed platforms, moorings, or beaches.

Auditor Actions

☐   **Identified/Assessed** requirement for implementation of safety procedures in the conduct of dock operational activities.

☐   **Interviewed** responsible manager(s) in ground handling operations.

☐   **Examined** selected sections or parts of the OM (focus: policies, processes, procedures used by dock operations personnel are included).

☐   **Other Actions** (Specify)

Guidance

Safety procedures typically address:

- Signals used between dock personnel and the flight crew;
- Verbal phraseology used between dock personnel and the flight crew;
- Standard Operating Procedures (SOPs) for docking of aircraft and departing aircraft from the dock. These procedures shall include the roles and responsibilities of dock staff during these operations and shall be designed in such a way as to address hazards such as propeller and wing danger zones;
- If applicable, protection of passengers moving between the aircraft and the terminal building or other onshore facilities or infrastructure, where a dock or floating platform is utilized for passenger embarkation and disembarkation;
- Measures for assessing and maintaining safe aircraft access to dock facilities, including managing water hazards and debris and other seaplanes, watercraft or vessels in the vicinity;
- Dock fire safety;
- The spillage of fluids and other materials on the dock or in the water;
- A dockside severe weather plan, including provisions for strong and/or adverse wind conditions during docking procedures;
- Procedures for safely moving and securing aircraft at the dock, particularly during adverse weather conditions such as high winds and waves.

Refer to IGOM Chapters 3 and 4 for safety procedures used in ground operations.

3.3   Load Control

GRH 3.3.1

The Operator shall ensure a Load Control system is in place that provides for:

(i)   Aircraft weight and balance conditions that are correct and within limits;

(ii)   Aircraft loaded in accordance with applicable regulations and specific loading instructions for the flight;

(iii) Dissemination of dangerous goods and other special load information applicable to each flight;

(iv) Information, to include last minute changes, that is in agreement with the actual load on the aircraft and presented on a final load sheet. **(GM)**

Auditor Actions

☐ **Identified/Assessed** Load Control system.

☐ **Interviewed** responsible manager(s) in load control operations.

☐ **Examined** checklists/procedures used in the load control process.

☐ **Observed** load control operations (focus: load control system includes functions necessary to address aircraft load, weight/balance calculation, production of final load sheet).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Load, Load Control, Special Load and Weight and Balance Manual (W&BM).

A load planning system typically entails, as a minimum:

- Assemblage of all data relating to the aircraft load (originating and en route stations);
- Planning of the load for ready accessibility;
- Planning of special loads according to restrictions, maximum quantities, separation and segregation requirements;
- Consideration of center of gravity parameters affecting aircraft fuel consumption.

Guidance may be found in AHM 551 and 590.

3.4   Aircraft Loading

GRH 3.4.1

The Operator shall have aircraft loading procedures in the OM that ensure:

(i) The cargo hold is inspected before loading to:

    (a) Check for damage;

    (b) Ensure it is empty of other than documented transit load items.

(ii) The aircraft is loaded:

    (a) In accordance with written loading instructions;

    (b) In a manner that satisfies weight and balance requirements.

(iii) The load is secure and will not move during the flight;

(iv) If applicable, ULD locks are extended and locked. **(GM)**

Auditor Actions

☐ **Identified/Assessed** aircraft loading procedures.

☐ **Interviewed** responsible manager(s) in ground handling operations.

☐ **Examined** examples of documented aircraft loading instructions.

☐ **Observed** aircraft loading operations (focus: aircraft loaded in accordance with loading instructions/weight/balance requirements).

☐ **Interviewed** personnel that perform aircraft loading.

☐ **Other Actions** (Specify)

Guidance

Refer to IGOM 4.5.9, 5.6.1 and 5.6.2, as well as AHM 514 and 590 for additional guidance.

GRH 3.4.2

The Operator shall ensure procedures are in place for the loading and securing of baggage or cargo if it is to be carried inside the cabin. The procedures shall comply with manufacturer specifications and state regulatory requirements, including the following:

  (i)   Baggage must be secured with cargo nets or straps so that it cannot shift during flight or come free during a crash;

  (ii) Each passenger seat under which baggage is stowed shall be fitted with a means to prevent articles of baggage stowed under it from sliding;

  (iii) Baggage and cargo must be stowed in such a way as to allow passengers unrestricted access to regular and emergency exits in the aircraft. **(GM)**

Auditor Actions

☐ **Identified/Assessed** aircraft loading procedures.

☐ **Interviewed** responsible manager(s) in ground handling operations.

☐ **Examined** examples of documented aircraft loading instructions.

☐ **Interviewed** personnel that perform aircraft loading.

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure that the Operator is compliant with regulatory and safety requirements pertaining to the carriage of baggage or cargo in aircraft cabins.

Aircraft used in seaplane operations typically have limited capacity in baggage compartments, or the baggage compartment may be located in the cabin. Unsecured objects in the cabin of a seaplane present the same inherent risks that they do in landplanes, but they also pose the additional risk of hindering passengers in an underwater egress scenario. Egress capabilities are further hindered if passengers do not have access to all exits.

Expanded guidance can be found in 14 CFR §135.87 (Carriage of cargo including carry-on baggage), TCCA CARs 602.86 (Carry-on Baggage, Equipment and Cargo) and ICAO Annex 6 P1 4.8.

GRH 3.4.3

If the Operator transports dangerous goods as cargo, the Operator shall ensure procedures are in place for the transportation of dangerous goods to/from an aircraft and the loading and securing of dangerous goods on an aircraft in a manner that:

  (i)   Prevents damage to packages and containers during aircraft loading and unloading;

  (ii) Provides for separation and segregation in accordance with applicable requirements;

  (iii) Prevents any movement in the aircraft. **(GM)**

Auditor Actions

☐ **Identified/Assessed** procedures for loading/securing dangerous goodsto/from an aircraft and and the loading/securing of dangerous goods on an aircraft.

☐ **Interviewed** responsible manager(s) in ground handling operations.

☐ **Interviewed** personnel that perform aircraft loading and securing of cargo shipments.

☐ **Observed** transportation of cargo to/from aircraft and the loading and securing of dangerous goods (focus: handling of dangerous goods to prevent damage, prevent movement in the aircraft, and maintain separation).

☐ **Other Actions** (Specify)

Guidance

△   Refer to DGR 9.3 for guidance that addresses the the transportation, loading and securing of dangerous goods, and to DGR 10.9 for guidance that addresses securing and separation of radioactive material.

☐   Refer to IGOM 4.5.7.7 for guidance that addresses securing of dangerous goods.

4   Special Aircraft Ground Handling Operations

4.1   Aircraft Fueling

GRH 4.1.1

The Operator shall have a process to ensure fuel suppliers are maintaining standards of fuel safety and quality acceptable to the Operator and fuel delivered and loaded onto aircraft is:

    (i)   Of the correct grade and specification for each aircraft type;

    (ii)   Free from contamination. **(GM)**

Auditor Actions

☐   **Identified/Assessed** process for monitoring of fuel quality at all locations where aircraft are refueled.

☐   **Interviewed** responsible manager(s) in ground handling operations.

☐   **Examined** selected quality control inspection reports (focus: fuel supply quality management).

☐   **Other Actions** (Specify)

Guidance

The intend of this standard is to ensures fuel is stored, handled and serviced in accordance with accepted standards.

Approved fuel specifications are contained in each aircraft manual.

To ensure fuel corresponds to the specifications and grade of product necessary for the applicable aircraft type(s), a control process is typically in place at each location where the operator has aircraft fueling operations. Such process ensures the existence of periodic inspections of critical aspects of the fuel supply system at each applicable location, to include, as a minimum:

- Fuel facilities;
- Safety and quality procedures;
- Performance levels of personnel.

Processes for ensuring fuel is of the correct grade and free of contamination may be documented in maintenance, ground operations or flight operations manuals, or in a combination thereof. If the Operator uses biofuels, additional procedures would typically address the related specific requirements (i.e. dedicated infrastructures and blending requirements).

Additional guidance may be found in the IFQP (IATA Fuel Quality Pool) Quality and Safety Procedures, and in the AEA Recommendations for De-icing/Anti-icing of Aircraft on the Ground.

4.2   Aircraft De-/Anti-icing

GRH 4.2.1

If the Operator conducts flights from any airport when conditions are conducive to ground aircraft icing, the Operator shall have a De-/Anti-icing Program, which, if applicable, is approved by the Authority and, as a minimum:

    (i)   Ensures adherence to the Clean Aircraft Concept;

    (ii)   Defines responsibilities within the Program;

    (iii)   Addresses applicable locations within the route network;

    (iv)   Defines areas of responsibility;

(v)   Specifies technical and operational requirements;

(vi)   Specifies training and qualification requirements;

(vii)   Is applicable to external service providers that perform de-/anti-icing functions for the Operator. **(GM)**

Note: The specifications of this provision are applicable to both commercial and non-commercial operations.

Auditor Actions

☐   **Identified/Assessed** approved aircraft de-/anti-icing program. (focus: all applicable locations within the route network are addressed; non-commercial operations are accounted for).

☐   **Interviewed** responsible manager(s) in ground handling operations.

☐   **Examined** de-/anti-icing program at selected airports. (focus: de-/anti-icing program requirements and areas of responsibilities are addressed as per selected airport's local conditions).

☐   **Examined** reports that detail past de-/anti-icing operations at selected airports. (focus: de-/anti-icing operations performed by external service providers are continuously reported to the operator).

☐   **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of De-/Anti-icing Program and Clean Aircraft Concept.

A de-/anti-icing program would address not only commercial operations at an applicable airport but, if applicable, non-commercial operations as well (e.g. positioning flights, test flights, training flights).

The scope and details of a de-/anti-icing program would typically be commensurate with the frequency and complexity of operations at airports with the potential for ground icing conditions.

△   Additional guidance may be found in ICAO Doc 9640-AN/940, Manual of Aircraft Ground De-icing/Anti-icing Operations, Chapter 3, and in SAE AS6285, Aircraft Ground Deicing/Anti-Icing Processes. The latter is used as the basis for inspections conducted under the IATA De-Icing/Anti-Icing Quality Control Pool (DAQCP).

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Section 7 — Cargo Operations (CGO)

Applicability

Section 7 addresses functions within the scope of cargo handling operations, and is applicable to an operator that transports revenue or non-revenue cargo and/or mail. COMAT (Company Material) is non-revenue cargo.

In this section, non-revenue cargo and mail are addressed in the same way as revenue cargo for the purposes of handling, loading, securing and transporting.

For the purpose of addressing cargo in this section, mail is considered to be an item of cargo. Therefore, any reference to cargo also includes mail.

Individual CGO provisions or sub-specifications within CGO provisions that:

- Do not begin with a conditional phrase are applicable unless determined otherwise by the Auditor.

- Begin with a conditional phrase ("If the Operator...") are applicable if the Operator meets the condition(s) stated in the phrase.

Functions within the scope of cargo handling operations include:

- Cargo and mail acceptance;

- Cargo and mail handling;

- Application of required security measures.

Certain operators, particularly all-cargo operators, might have ground handling operations functions performed by cargo operations personnel (e.g. aircraft loading, airside operations, load control). Where this situation exists, the operator must be in conformity with the ISARPs contained in Section 6, Ground Handling Operations (GRH), that are applicable to the ground handling operations functions performed by cargo operations personnel.

Where an operator outsources the performance of functions within the scope of cargo operations to external service providers, the operator retains overall responsibility for such functions, and must demonstrate processes for monitoring applicable external service providers in accordance with ORG 2.2.1 located in Section 1 of this manual.

General Guidance

Definitions of technical terms used in this ISSM Section 7, as well as the meaning of abbreviations and acronyms, are found in the IATA Reference Manual for Audit Programs (IRM).

1   Management and Control

1.1–1.5   (Intentionally open)

1.6   Operational Manuals

CGO 1.6.1

If the Operator transports revenue or non-revenue cargo, the Operator shall have an Operations Manual (OM), which may be issued in separate parts, that contains the operational policies, processes, procedures and other information necessary to ensure compliance with applicable regulations, laws, rules and standards of the Operator. The content of the OM shall contain standards and guidance that addresses the acceptance, handling, loading, securing and transporting of cargo as specified in Table 7.1. **(GM)**

Auditor Actions

☐ **Identified/Assessed** cargo OM or, if applicable, separate documents that comprise the OM.

☐ **Interviewed** responsible management representative(s).

☐ **Identified** standards and guidance in the OM that address acceptance, handling, loading, securing and transporting of cargo as per Table 7.1.

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of High-risk Cargo.

This provision is applicable to an operator that transports non-revenue cargo. COMAT is non-revenue cargo.

An OM may include guidance that addresses areas generic to all functions within the scope of cargo operations; other parts of the manual may be specific to individual operational functions.

Because the scope of cargo operations is broad and varies by operator, rather than publishing a separate OM dedicated to cargo operations (e.g. a Cargo Operations Manual), an operator might choose to publish all guidance for cargo operations in a section of an OM that addresses other types of operations (e.g. maintenance management manual for an operator that transports only COMAT).

An operator could also choose to issue the information in separate documents that are each specific to the various cargo operations functions (e.g., safety and security, acceptance, physical handling, documentation, identification, storage and stowage, preparation for flight). Each individual document would typically contain generic guidance that is applicable to all cargo operations functions (e.g., organizational policies, general definitions), as well as guidance that is specific to the particular function or office location (e.g., process descriptions, standard operating procedures, references to the appropriate regulations and IATA manuals).

If an operator has external organizations conduct cargo operations functions, such an operator would then be expected to have a monitoring and control process to ensure each external organization either uses the OM of the operator or has its own published operations manual that fulfills operational safety, security and quality requirements of the operator.

2 Training and Qualification

2.1 Training Program

CGO 2.1.1

If the Operator transports revenue or non-revenue cargo and/or mail, the Operator shall have a process to ensure personnel that perform operational duties in functions within the scope of cargo (revenue or non-revenue) operations for the Operator, to include personnel of external service providers, complete:

(i) *Initial training* prior to being assigned to perform such operational duties;

(ii) *Recurrent training* on a frequency in accordance with requirements of the regulatory authority but *not less than once during every 36-month period*, except for recurrent training in dangerous goods as specified in CGO 2.2.1, CGO 2.2.2;

(iii) *Re-qualification training* applicable to personnel that become unqualified for any reason, prior to being reassigned to perform operational duties. **(GM)**

Auditor Actions

☐ **Identified/Assessed** processes for ensuring completion of training by cargo operations personnel (focus: includes personnel in all cargo operations functions; includes external service providers).

☐ **Interviewed** responsible manager(s) in cargo operations.

☐ **Examined** selected initial/recurrent course curricula/syllabi (focus: initial and recurrent training programs address all cargo operations functions).

□ □ **Examined** initial/recurrent training records of selected personnel (focus: completion of initial and recurrent training).

□ **Examined** requalification training records of selected personnel (focus: completion of requalification training).

□ **Other Actions** (Specify)

Guidance

Refer to the Applicability box at the beginning of this section for the functions within the scope of cargo operations.

Requirements for initial and recurrent training apply to all personnel that perform duties within the scope of cargo handling operations for an operator, both at the main base and all other locations.

2.2 Program Elements

CGO 2.2.1

If the Operator transports dangerous goods as revenue or non-revenue cargo, the Operator shall have a process to ensure personnel assigned the responsibility for accepting dangerous goods complete dangerous goods training, to include *initial training* and *recurrent training* within 24 months of previous training in dangerous goods. **(GM)**

Auditor Actions

□ **Identified/Assessed** dangerous goods training program: (focus: defines DG training requirements for all cargo handling personnel based on specific assigned responsibilities/duty functions).

□ **Interviewed** responsible manager(s) in cargo operations.

□ **Examined** applicable initial/recurrent dangerous goods training curricula and syllabi (focus: subject areas appropriate for personnel based on specific responsibilities/duty functions).

□ **Examined** initial/recurrent dangerous goods training records of selected personnel (focus: completion of required training as appropriate for assigned responsibilities/duty functions).

□ **Other Actions** (Specify)

Guidance

Recurrent training in dangerous goods is completed within a validity period that expires 24 months from the previous training to ensure knowledge is current, unless a shorter period is defined by a competent authority. However, when such recurrent training is completed within the final 3 months of the 24-month validity period, the new validity period may extend from the month on which the recurrent training was completed until 24 months from the expiry month of the current validity period. If such recurrent training is completed *prior* to the final three months of the validity period, the new validity period would extend 24 months from the month the recurrent training was completed.

The curriculum for dangerous goods training for cargo operations personnel will vary depending on specific responsibilities and duty function(s), but will typically address the following subject areas:

- General philosophy;
- Limitations;
- General requirements for shippers;
- Classification;
- List of dangerous goods;
- General packing requirements;
- Packing instructions;
- Labeling and marking;
- Shipper's declaration and other relevant documentation;
- Acceptance procedures;
- Recognition of undeclared dangerous goods;

- Storage and loading procedures;
- Flight crew notification;
- Provisions for passengers and/or crew;
- Emergency procedures.

Refer to DGR 1.5 (Table 1.5.A, Minimum Requirements for Training Curricula), for guidance that addresses dangerous goods training and subjects applicable to specific cargo handling functions.

CGO 2.2.2

If the Operator transports revenue or non-revenue cargo, but not transport dangerous goods, the Operator shall have a process to ensure personnel assigned the responsibility for accepting or handling any cargo complete dangerous goods training, to include *initial training* and *recurrent training* within 24 months of previous training in dangerous goods. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** dangerous goods training program: (focus: defines DG training requirements for personnel with cargo acceptance/handling responsibilities).
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Examined** selected initial/recurrent dangerous goods training curricula/syllabi (focus: subject areas appropriate for personnel with cargo acceptance/handling responsibilities).
- ☐ **Examined** initial/recurrent training records of selected cargo operations personnel (focus: completion of required training as appropriate for assigned responsibilities/duty functions).
- ☐ **Other Actions** (Specify)

Guidance

When an operator does not transport dangerous goods (i.e. a "no-carry" operator), dangerous goods training is still required for cargo operations personnel to ensure declared and undeclared dangerous goods are recognized and prohibited from being carried or loaded onto an aircraft.

Dangerous goods training is structured to provide the requisite knowledge to permit cargo operations personnel to recognize dangerous goods, whether labeled or not labeled, and to prevent such dangerous goods from being inadvertently accepted and/or planned for loading into an aircraft.

The curriculum for dangerous goods training for cargo handling personnel is determined by the operator and may vary depending on specific responsibilities and duty function(s).

Refer to DGR 1.5 and Appendix H.6 for guidance that includes adapted task lists for well-defined job functions.

3   Acceptance and Handling

3.1   General Cargo

CGO 3.1.1

If the Operator transports revenue or non-revenue cargo, the Operator shall have a process to ensure such shipments accepted for transport:

(i)   If revenue cargo, are in compliance with standards in the OM as specified in CGO 1.6.1;

(ii)   If non-revenue cargo, are in compliance with the OM or equivalent document as specified in CGO 1.6.1. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process that ensures cargo shipments accepted for transport are in compliance with applicable requirements.
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Examined** selected quality control inspection reports.

☐ **Observed** cargo acceptance operations (focus: process for ensuring cargo shipments comply with applicable requirements).

☐ **Other Actions** (Specify)

Guidance

Cargo is accepted under the terms of the OM, which typically specifies procedures to ensure acceptance personnel verify the cargo (revenue or non-revenue) has been packed in a manner:

- For safe transport with ordinary care in handling;
- To preclude injury or damage to any person, cargo or property.

Refer to the IATA Cargo Services Conference Resolution 660 for guidance pertaining to interline cargo.

3.2 Dangerous Goods

CGO 3.2.1

If the Operator transports dangerous goods as revenue or non-revenue cargo, the Operator shall have a Dangerous Goods Acceptance Checklist that:

(i) Reflects applicable requirements contained in the current dangerous goods regulations.

(ii) Once completed, contains information that identifies the person(s) that performed the acceptance check. **(GM)**

Auditor Actions

☐ **Identified/Assessed** dangerous goods acceptance checklist (focus: contains DGR requirements, information that identifies person that performed acceptance check).

☐ **Interviewed** responsible manager(s) in cargo operations.

☐ **Examined** process(es) for development/maintenance of dangerous goods acceptance checklist.

☐ **Observed** cargo acceptance operations (focus: dangerous goods acceptance in accordance with DGR requirements).

☐ **Other Actions** (Specify)

Guidance

Sample checklists for non-radioactive shipments, radioactive shipments and dry ice (carbon dioxide, solid) are found in the back of the DGR.

Refer to DGR 9.1.3 for guidance that addresses the Dangerous Goods Acceptance Checklist.

Table 7.1–Operations Manual Content Specifications

The content of the Operations Manual shall contain standards and guidance that address the acceptance and handling of revenue cargo, to include, as applicable to type(s) of shipments transported by the Operator:
 	
(i) Compliance or conformity with:
    (a) Applicable laws, regulations and rules, including civil aviation cargo security programs;
    (b) Industry standard operating procedures for each aspect of cargo acceptance and handling.
(ii) Response to abnormal or emergency situations:
    (a) Leakage or spillage of suspected dangerous goods;
    (b) Suspected bomb or explosives;
    (c) Damaged or leaking cargo;
    (d) Other emergencies.
(iii) Cargo acceptance and handling, including conditions of carriage:
    (a) General cargo;
    (b) Security requirements;
    (c) Dangerous goods;
    (d) Live animals;
    (e) Other special cargo:
        • Perishable cargo;
        • Human remains;
        • Outsized and heavy cargo;
        • Fragile goods.
    (f) Mail;
    (g) Valuable cargo;

Section 8 — Security Management (SEC)

Applicability

Section 8 addresses the management of operational security in accordance with requirements of an Air Operator Security Program (AOSP). This section is applicable to all operators.

Individual provisions or sub-specifications within a provision that:

- Do not begin with a conditional phrase are applicable to all operators unless determined otherwise by the Auditor.
- Begin with a conditional phrase ("If the Operator...") are applicable if the operator meets the condition(s) stated in the phrase.

Where operational security functions are outsourced to external service providers, an operator retains responsibility for the conduct of such functions and will have processes to monitor applicable external service providers in accordance with ORG 2.2.1 located in Section 1 of this manual to ensure requirements that affect the security of operations are being fulfilled.

General Guidance

Definitions of technical terms used in this ISSM Section 8, as well as the meaning of abbreviations and acronyms, are found in the IATA Reference Manual for Audit Programs (IRM).

1	Management and Control

1.1	(Intentionally open)

1.2	Air Operator Security Program (AOSP)

SEC 1.2.1

The Operator shall have a formal Air Operator Security Program (AOSP) that includes:

    (i) The requirements of the civil aviation security program of the State of the Operator (hereinafter, the State);

    (ii) Applicable requirements of other states where operations are conducted;

    (iii) The security standards of the Operator. **(GM)**

Auditor Actions

☐ **Identified/Assessed** the AOSP.

☐ **Examined** operator-specific security requirements and standards.

☐ **Interviewed** responsible manager(s).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Act of Unlawful Interference, State, State Acceptance and State Approval.

An operator is required to have an AOSP in order to:

- Protect customers, personnel and assets from any act of unlawful interference;
- Comply with regulatory requirements.

The name of an operator's security program may vary based on the regulatory jurisdiction. Examples of typical alternative names to AOSP include ACSP (Air Carrier Security Program) and ASP (Airline Security Program).

The Security Program may be structured in accordance with the template provided by the State of the Operator or other relevant state (where operations are conducted).

The State may issue a standard security program with which all operators must comply (operators may apply for exemptions or amendments, as applicable). In such cases, the standard security program of the State is typically recognized as the AOSP of the operator. The AOSP typically also includes other company manuals and procedures that provide carrier-specific details.

A standard security program may be acceptable in meeting security requirements of other states, or the operator may be required to submit individual security programs tailored to meet requirements of other states. An operator must satisfy the security requirements of all applicable states for the purpose of meeting the intent of this standard.

The Security Program is normally approved or accepted (i.e. no notice of deficiency or equivalent is issued) by the relevant state.

1.3–1.4   (Intentionally open)

1.5   Provision of Resources

SEC 1.5.1–1.5.2   (Intentionally open)

SEC 1.5.3

If permitted by the State, the Operator shall ensure a process has been established that requires operational security personnel in the organization of the Operator and, if applicable, service providers selected by the Operator to conduct operational security functions, to be subjected to preemployment and recurring background checks in accordance with requirements of applicable aviation security authorities. The requirement for a background check shall be applicable to personnel who:

 (i)   Engage in the implementation of security controls;
 (ii)   Have unescorted access to the security restricted area of an airport;
 (iii)   Have unescorted access to other security areas and searched aircraft;
 (iv)   Have access to sensitive aviation security information. **(GM)**

Auditor Actions
☐ **Identified/Assessed** process for the pre-employment and recurring background checks.
☐ **Examined** selected records of personnel background checks.
☐ **Interviewed** responsible manager(s).
☐ **Other Actions** (Specify)

Guidance
Refer to the IRM for the definitions of Security Control and Security Restricted Area.
A background check might include:

- Criminal record check;
- Previous employment history;
- Personal references;
- Education and training.

National legislation on civil liberties and protection of personal information will greatly influence the limits placed on an employer when performing pre-employment background checks. An employer is not permitted to deviate from the laws of the country where the hiring process is taking place.

Escorted access may be provided to an individual that has yet to complete all aspects of the background checking process.

An individual currently permitted unescorted access to a security restricted area, but who subsequently fails to satisfy the criteria to continue to hold an airport identification card or forunescorted access to a security restricted area, will typically have access to security restricted areas, as well as access to sensitive aviation security information, revoked immediately.

The operator's role in the background check process will be determined by the State. In some cases, the entire process will be managed and/or conducted by the State.

1.6 (Intentionally open)

1.7 Security Manual

SEC 1.7.1

The Operator shall have a Security Manual or equivalent document that provides guidance for the implementation of the AOSP to ensure applicable personnel have the direction necessary to implement security measures. **(GM)**

Auditor Actions

☐ **Identified/Assessed** security manual, including separate documents where applicable.

☐ **Examined** selected contents of the security manual.

☐ **Interviewed** responsible manager(s).

☐ **Other Actions** (Specify)

Guidance

An operator may have more than one security manual (e.g. where security responsibilities are delegated to various departments or by geographic locations, each with distinct security requirements). All documents comprising an operator's security manual (or equivalent document) are considered controlled documents.

The content of the security manual (or equivalent document) typically addresses the following subject areas, as applicable to the operator's type(s) of operations conducted and specific security requirements:

- Definitions of technical terms associated with the AOSP;
- Authority and applicability of the AOSP;
- Recruitment and training of operational security personnel;
- Security threat assessment;
- Public awareness of security;
- Detection equipment and technology;
- Security of checked baggage;
- Security of cargo, express parcels and mail;
- Measures for addressing unruly passengers.

2   Training and Qualification

2.1   Training Program

SEC 2.1.1

The Operator shall have a security training program that includes initial and recurrent training, and is in accordance with requirements of all applicable state(s). The security training program shall have a balanced curriculum of theoretical and practical training to ensure:

(i)   Personnel, employed by or under the control of the Operator who implement security controls, have the competence to perform their duties;

(ii)   Flight and cabin crew members and frontline aircraft ground handling and cargo handling personnel are able to act in the most appropriate manner to minimize the consequences of acts of unlawful interference and/or disruptive passenger behavior. **(GM)**

Note: If permitted by the State, the program shall ensure applicable personnel have completed appropriate security background checks in accordance with SEC 1.5.3 prior to attending any training that contains sensitive or restricted security information.

Note: Applicable personnel shall complete initial security training prior to being assigned to operational duties.

Auditor Actions

☐   **Identified/Assessed** security training program (focus: approval/acceptance by State; meets applicable requirements of other states).

☐   **Interviewed** responsible manager(s).

☐   **Examined** selected security training program curricula (focus: contain theoretical and practical training elements).

☐   **Examined** selected ground/cargo handling personnel training records (focus: completion of initial/recurrent security training).

☐   **Other Actions** (Specify)

Guidance

Training may be sub-divided for line managers/supervisors, aircrew, ramp workers, cargo personnel and other personnel who are directly involved in the implementation of security measures and thereby require an awareness of obligations to the AOSP.

The security training program is typically integrated into the normal training curriculum for operational personnel, and need not be stand-alone training.

The proportion of theoretical and practical training is typically based on requirements of the State. For certain functions or duties there may not be a practical component.

The scope of recurrent security training, as well as the specific subject matter included, may vary in accordance with requirements of the applicable authorities and the security policy of the operator.

An existing background check from a previous employer may be acceptable if still time valid.

Different training tools for security awareness and security incident reporting have been developed by states and the Industry. The use of IATA's "See it Report it" training and certification tool is one method for the operator to demonstrate conformity with the relevant specification in this provision. (https://www.iata.org/whatwedo/security/Pages/security-management-system-sems.aspx)

3   Security Operations

3.1–3.3   (Intentionally open)

3.4   Passengers and Cabin Baggage

SEC 3.4.1

If the Operator conducts passenger flights, the Operator shall have a process to ensure originating passengers and their cabin baggage are subjected to screening prior to boarding a passenger aircraft for:

(i)   An international flight;

(ii)   As required by the applicable aviation security authority, a domestic flight. **(GM)**

Note: Supernumeraries that require a flight reservation or passenger name record for transport on the aircraft shall be subjected to the requirements of this provision unless exempted by the State.

Auditor Actions

☐   **Identified/Assessed** process(es) to ensure all passengers and their cabin baggage are screened prior to boarding a passenger aircraft for international flights.

☐   **Identified/Assessed** process(es) for the screening of originating passengers and their cabin baggage for domestic flights (if required by the applicable aviation security authority).

☐   **Interviewed** responsible manager(s).

☐   **Observed** passenger/baggage handling operations (focus: originating passengers/cabin baggage are subjected to screening prior to aircraft boarding).

☐   **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Domestic Flight.

The effective screening of all passengers and their cabin baggage is recognized as an essential element in achieving a safe and secure operation, and forms part of the passenger handling procedures contained in the AOSP.

Technical equipment used for the screening of persons and baggage has certain limitations. Archway metal detectors and hand-held metal detectors, for example, cannot detect non-metallic weapons and explosives. Even conventional X-ray equipment does not always image or define explosive material effectively. To compensate for such limitations, or to introduce a random element into the selection process, it may be advisable to conduct an additional search of passengers and cabin baggage after they have been screened. The additional screening can be performed by hand or by technical means, such as explosive trace detection (ETD), full-body X-ray, explosive particle or vapor detection portals and/or other approved advanced technological methods.

It is recommended that screening equipment used to assist screening personnel is capable of detecting explosive materials and/or explosive devices that might be carried by passengers either on their person or in cabin baggage.

If the use of explosive detection screening equipment is not continuous, then it is recommended that such equipment be used on a random basis to ensure non-predictability by passengers and others.

Specific guidelines and procedures are developed and training given to personnel, for addressing persons with special needs.

3.5–3.6   (Intentionally open)

3.7   Cargo Shipments

SEC 3.7.1

If the Operator transports revenue or non-revenue cargo, the Operator shall have a process to ensure cargo shipments for transport on all flights have been subjected to the appropriate security controls, including screening where required, as established by the applicable state(s) prior to being loaded onto an aircraft.

Auditor Actions

☐ **Identified/Assessed** process(es) to ensure cargo has been subjected to the appropriate security controls.

☐ **Identified/Assessed** process(es) to ensure security controls performed on cargo meet the requirement of the applicable state(s).

☐ **Examined** selected records that reflect implementation of cargo security controls.

☐ **Interviewed** responsible manager(s).

☐ **Other Actions** (Specify)